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ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

Vol. XLII | OAK PARK, ILL., SEPTEMBER, 1922 | No. 3

Original Articles

THE SYMPTOMATOLOGY OF CHRONIC FATIGUE INTOXICATION.*

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The disease under consideration has never, so far as I have been able to determine, been exhaustively studied or adequately described. It is a general chronic systemic disorder, the result of the gradual accumulation in the tissues of excessive amounts of fatigue material. It manifests itself sympotomatically in a deviation from the normal of practically every function of the body in that reaction is out of all proportion to the stimulus acting; by more or less generalized tonic muscular spasm; by an inability on the part of the affected individual to secure physical relaxation or mental repose and by a very characteristic group of physical signs and symptoms. It affects almost exclusively the ambitious, the spirited, and the strong-willed, who from a sense of duty or borne on by their enthusiasm drive their bodies beyond the limit of physical safety and who before they realize it have hypersaturated their system with fatigue material to such a degree as to make it impossible for the organism to again rid itself unaided of this toxic substance.

This disease is if anything more protean in its manifestations than is lues. Its symptoms may on occasions simulate a great variety of both chronic and acute affections. But this is not all. In addition a patient suffering from this affection may, like a patient suffering from lues, go through a large gammut of varying symptoms during the progress of his illness, symptoms which apparently bear no relation to each other, and which may even on the surface appear contradictory. This peculiarity unquestionably has had much to do with the tardiness in the unraveling of the whole symptom complex.

The disease under consideration may conveniently be divided into two stages, namely, the acute, early, active, or labile stage and the late, fully developed, chronic, or stabile stage. One of the most characteristic symptoms of this condition is the fact that reaction is always out of proportion to the stimulus acting; and this applies with equal force to physical stimuli and physical reactions, and to emotional stimuli and emotional reactions. In the acute labile stage the resultant reaction is out of all proportion in its intensity, while in the chronic stage the reaction is disproportionately sluggish and feeble.

Some of the first symptoms to appear, and the last to leave, if the patient is put on proper treatment, and in fact the first ones that attracted my attention in the study of this affection some twenty-eight years ago, are dermographia, urticaria, angio-neurotic-edena and pruritus. Angio-neurotic-edema and urticaria may involve any portion of the body though the former is more apt to involve the exposed surfaces of the body such as the face and hands while the latter is more apt to involve the covered portions of the body.

The pruritis associated with this affection may be localized or general. If the former, it is more likely to affect those portions of the body where the mucous membranes and the skin meet, as the margins of the eye-lids, nose, mouth, anus and genitalia and the palms of the hands and the soles of the feet. I know nothing that is more distressing than a case of general pruritis caused by this affection. In these cases it is practically impossible to find any external cause for the pruritis, and a pruritis which cannot be accounted for by a local cause should immediately make one suspicious of a systemic cause and particularly of this affection.

The skin, particularly on the exposed portions of the body such as the hands and face, may be

*Read before the Chicago Medical Society, February 8, 1922.

overstretched, thin, shiny, dry, almost lifeless in appearance and ashen gray in color, or blue, moist, cold and clammy, or loose and flabby; sometimes on the cheeks and neck folds of skin form almost simulating whattles; or again the skin is red, florid, hard, dry and swollen; or the complexion may be alternately livid and florid or ashen. If the skin is very dry and lifeless fissures of various depths and varying degrees of severity may develop. These fissures may occur anywhere but are most likely to occur on the hands and feet, about the nares, mouth, arms, groins, genitalia and anus.

On the covered portions of the body the skin is often dry, thickened, roughened and pigmented. One of my patients, a very cleanly, fastidious woman, had skin on her back and sides of chest which in places was fully three-fourths of an inch thick, which felt more like the bark of a tree than skin; in fact, was likened to a grating iron by the patient herself and was so pigmented and black that it looked as though she had not had a bath for weeks and months. In the less severe cases patches of skin are found here and there on the body which are rather difficult to describe. They may vary in size from one or two cm. in diameter to the size of a hand, and even larger, usually more or less circular though sometimes somewhat irregular, sometimes symmetrical and sometimes asymmetrical. If the skin is picked up between the thumb and index finger it is found to be greatly thickened and glossy, almost as though oil could be pressed out of it, always sensitive and often excruciatingly tender.

The subcutaneous areolar tissue is usually the seat of a diffuse edema which infiltrates these structures, separates the skin from the deep fascia and in that way obliterates the normal countour and creases of the body. If this involves the tissues of the face, particularly if associated with thickening of the skin, it often gives the intelligent person a very unintelligent look simulating sometimes the expression of countenance so frequently seen in those habitually indulging in alcoholic liquors to excess; makes the hands look puffy, pudgy and swollen so that the play of the extensor tendons cannot be seen and the normal depressions are obliterated.

Oftentimes there are deposits in the subcutaneous areolar tissues and intermuscular septa varying in size from a split pea to a black walnut,, rather firm, always sensitive, but during acute exacerbation very painful and excruciatingly tender.

The muscular system is one of the first to be involved and one of the last to get well. Hyperirritability and spasms of both the voluntary and involuntary muscles are the chief manifestations. The contractions may either be simply fibrillary, or tonic spasms of the whole muscle or muscle group. In the more severe cases the muscles are often in permanent tonic spasm, not even relaxing completely during sleep. In these severe cases the muscles often feel as hard as a board and there is very little difference in their consistency whether at apparent rest or when a voluntary attempt is made at further contraction. In other words, they are always at greater tension than normal.

An individual whose muscles are chronically bilaterally contracted and who cannot relax them and make them flaccid at will is almost sure to be suffering from this condition. A patient in whom the neck muscles are thus involved walks with his neck stiff, the head thrust slightly forward and often a little to one side, with a peculiar shuffling gait which is so characteristic that it can often be diagnosed as he walks into the room. If the larger neck and trunk muscles are involved the patient has difficulty in bending and stooping and if unexpectedly subjected to even a slight push may have great difficulty in recovering his equilibrium. If the tonic spasm involves the facial muscles very characteristic expressions of the face develop. Thus, if the risorius muscles are principally involved the patient often has a chronic grin though he may not feel a particle like laughing. If the corrugator supercillii are principally involved he bears a constant frown and looks as though he were suffering from a chronic grouch. If the depressor anguli oris are involved the corners of the mouth are pulled down and he has the expression commonly known as "down in the mouth." If both the last mentioned groups of muscles are simultaneously involved the patient usually looks as though he had just buried his last friend.

The large skeletal muscles often become very tender after long periods of this tonic contraction and patients suffering from this affection almost invariably complain of what they call muscular rheumatism. It is interesting to ob-

serve here that whenever these muscles are thus contracted one can find deposits varying in size from millet seeds to split peas in the tendons of origin and sometimes also in the tendons of insertion of the affected muscles.

The muscles and tendons by all means the most frequently affected are the pectoralis major, trapezius, deltoids, spinal complex, muscles of the fore-arm, and calves of the legs. The latter two often become so hard that it is quite impossible to indent them.

With almost all cases, even in the early ones and always in the late ones, there is some joint involvement which is very characteristic. The joints involved are usually irregularly enlarged, often the swelling is in lumps. Later in the disease the swelling may be more diffuse, but on careful inquiry it is usually possible to elicit the information that the swelling began at one point and remained localized for a considerable time before becoming general. The involvements seem to be confined entirely to the periarticular structures, namely tendons, ligaments and capsules. The most typical and easily studied joints of this kind are the smaller joints, the type now generally called Heberden's nodes, which Heberden described under the heading "Digitorum Nodi."

The tonic spasm of the skeletal muscles associated with these joint involvements results in very decided limitation in motion.

The gastro-intestinal symptoms are the most distressing and are often the ones which bring the patient to the physician. In severe cases the lips are red, dry, parched, cracked and covered with herpes. The tongue is usually red and beefy at the borders, sometimes fissured, and even in the mildest cases the dorsum is always covered with a thin white fur which in severe cases may become a thick velvety coat, which has the peculiarity that it practically always retains its white color, no matter how thick it may be. This is well as the rarity of pyorrhea I am inclined to ascribe to the hyperacid condition of the mouth and stomach which is so usual in this condition and in some cases so pronounced as to actually cause serration and eburnation of the teeth. In the early cases the gums are often swollen, spongy, and bleeding, while in the later stages they are often receding. Pyorrhea is surprisingly rare. The tongue and mucous membrane of the cheeks are often the seat of recurrent attacks of canker sores which do not respond to any form of local treatment, are often very painful and because of the interference with mastication may actually impair the nutrition of the patient. Mouth, tongue and pharynx are often very dry, red and congested, which causes a sensation of dryness and even burning of these parts as well as of the gullet, and which in two of my cases was so distressing that it awakened the patients during the night, keeping them awake for hours. In some cases hypersecretion takes the place of dryness and manifests itself in an increased flow of saliva which in one of my cases resulted in long strings of mucus being pulled out of the mouth by the patient with her handkerchief for hours at a time.

The muscle spasm already referred to may involve the constrictors of the pharynx, resulting in spasm of the gullet, sometimes making swallowing very difficult, or it may involve the circular muscles of the lower end of the esophagus and result in a true cardiospasm. In the stomach proper the disease may manifest itself by marked hyperacidity and again in antacidity with all the symptoms accompanying either of these conditions so that regurgitation of sour water, eructations of gas, sometimes in enormous quantities and with much noise may occur; burning pain in the stomach and esophagus, distension of the stomach with gas, nausea, and often very severe gagging and retching though rarely vomiting may be prominent symptoms. There may also be a very pronounced pylorospasm and an actual hypertrophy of the pyloric sphincter, as observed in two cases operated upon by myself, where organic stricture had been wrongly diagnosed and only a pylorospasm with hypertrophy of the pyloric sphincter was discovered at the operation. As the result of this hyperacidity, dilation of the stomach and spasm of the hypertrophic pyloric sphincter, the emptying time is sometimes markedly prolonged. Thus one of these cases showed undigested food in the stomach washings twelve hours after the ingestion of an ordinary meal.

In quite a number of these patients we find marked gaseous distension of the intestines with much flatulence and the repeated expulsion of foul smelling flatus, alternate looseness and constipation of the bowels. When loose, the bowels are apt to be pasty, frothy, of foul odor, very acid and hence irritating to the rectum and anus.

The genito-urinary symptoms are not very numerous but when present are quite characteristic and sometimes very distressing. In nearly all cases, and particularly the severe ones, urine is very acid and sometimes causes considerable burning and tenesmus when it is being voided. As a general rule the urinations are increased in frequency and nocturia even up to a dozen times a night is one of the most annoying symptoms.

The respiratory tract is unusually sensitive to irritation, the patient suffering sometimes from severe dryness and again from profuse secretions. In the later stages some of these patients suffer from a very peculiar and yet very characteristic alteration in respiration. Such a patient while sitting quietly will be observed to have a very definite respiratory cycle. At first the respirations are very shallow and moderately increased in rate and after ten or twelve of these short, somewhat accelerated respirations the patient will pull himself together, apparently making a voluntary effort, take two or three very deep, slow respirations and in extreme cases end up with a sighing respiration. In fact, he breathes just exactly as horses with heaves do.

In the milder cases the circulatory system does not show any characteristic changes, while in the severer cases the variation from the normal is usually quite pronounced. In these latter cases the heart rate at rest is usually a little higher than that found in the average ambulatory patient. In addition after a very short period of strenuous exercise the heart rate will increase more rapidly than it does normally and the rapidity of its increase will depend largely upon the severity of the condition. The blood pressure is sometimes slightly below, more usually normal and again slightly increased and occasionally very greatly increased.

The blood count averages about as does the blood count in the average patient consulting a physician in his office, with the following two exceptions; namely, that most of the severe cases have a rather low leukocyte count and nearly all of the severe cases have a relatively high eosinophile count and often a true eosinophilia. Thus one of my severest cases had a leukocyte count of 3,600 per c.c. with fifteen per cent. of eosinophiles, or 540 eosinophiles to the c.c.

These patients are exceedingly sensitive to even the slighest variation from the normal because the range of normal reaction to stimuli of all kinds is greatly reduced. Thus a stimulus that would produce a normal reaction in the average person may either have a greatly exaggerated effect or relatively slight effect and in extreme cases no effect at all, depending upon the severity of the disease. The first result is likely to occur in the earlier stages, the second during the moderately advanced and the third during the severe terminal stage.

Physiologists tell us, what we all know if we reflect at all, namely, that healthy voluntary muscles are always slightly contracted, just enough to take out the slack. This is spoken of as normal muscle tonus. In this disease, however, this normal tonus is accentuated and the muscle passes beyond the power of relaxation either because of irritation of the spinal centers by the toxins circulating in the blood or possibly because of reflex irritation caused by the deposits in the tendons of the individual muscles. Or again both factors may be active. This tonic contraction if it involves many or all of the muscles and persists for long periods of time is necessarily very exhausting. And in the later stages some of these people actually do suffer severely from this condition. The exhaustion sometimes becomes so severe that every muscular effort becomes not only almost impossible but excessively painful so that even the weight of the affected extremity becomes almost unbearable. One of my patients, one of our very best nurses, who had for years driven herself to the very extreme limit of her endurance, told me when she finally broke down that she wished she could unhook her arms so that she might get a little relief from the distressing exhaustion.

As the disease progresses the margin of endurance becomes narrower and narrower until the slightest exertion causes complete exhaustion, often accompanied with excruciating pain.

Because of this severe muscular exhaustion finer co-ordination often becomes very difficult and such an individual in his walk and other voluntary motions because of this inco-ordination and lack of muscle stability, reminds one of the runner who is going on his second wind and swaying constantly in his forward motion.

The patellar reflexes in most cases are apparently normal. In early acute cases they may be markedly exaggerated while in the late terminal cases they may be sluggish or entirely absent.

The vasomotor symptoms are quite characteris-

tic. In the early acute cases there is a rapid alternate dilatation and constriction of the vessels even on very minute physical or emotional stimulation. In the later stages we get very characteristic symptoms of extreme vasomotor irritation or vasodilator paralysis when the complexion becomes an ashen grey, and in other cases extreme vasomotor paralyisis when the patient becomes chronically florid.

These patients are unable to adjust themselves to even slight differences in temperature. Thus a temperature slightly colder or warmer than they are accustomed to often makes them very uncomfortable.

The sensory disturbances are varied, sometimes moderate and sometimes extreme, consisting of numbness, tingling, tenseness of the skin, burning and often severe itching, the burning being particularly annoying across the back, on the palms of the hands and the soles of the feet. There may be hyperalgesia and hyperesthesia present, and most of them complain a great deal of tingling and numbness of the extremities and say the limbs are constantly going to sleep. If the sensory nerves are subject to pressure by the above described deposits the sensory disturbances are very marked, in fact neuritis is one of the most frequent and distressing symptoms of this affection. The neuritis may be general, multiple or single. All of the sensory nerves may be affected.

The organs of special sense are often affected. With taste the two most common complaints are, being annoyed either by a metallic taste or a sweetish taste. The sense of smell is sometimes somewhat impaired by the chronic congestion of the Snyderian membrane or the excessive dryness of the nose.

The hearing is sometimes markedly affected. Some find the slightest noise distressing, after a short time all music trying, even the best, and discords in music actually painful. In the early stages the hearing may be hypersensitive so that a patient notices and is annoyed by sounds which would not even be heard by the normal person. Later the hearing often suffers severely and I am rather inclined to believe that some at least of the progressive deafness which we see so commonly as age advances is due to this condition.

In the eyes the following symptoms have been noticed: the palpebral borders are often markedly irritated and reddened and some of these patients chronically appear as though they had not had enough sleep—much like the man who has been out the night before. The eyelids and the conjunctiva are sometimes markedly congested and swollen, occasionally slightly fissured. Sometimes in extreme cases there exists a presenile arcus senilis and irregular pigmentation of the iris. The sclera quite often is sub-icteric. In the early cases the pupils are apt to be very large and react to light more quickly than normal. In the later cases they are often very small, almost rigid, and react very slowly to light and accommodation though I have never observed any irregularity of the pupil. These patients often suffer much annoyance from spasm of the ciliary muscles.

Extreme irritability is one of the most constant symptoms in the severe cases and one of the earliest manifestations of the disease and appears in many forms. Thus, these people are, without exception, excessively sensitive to all emotional influences and an innocent, unoffending remark by a friend may be misconstrued and taken up as a slight and result in a flood of tears, or the same remark may be construed as an insult and result in an outburst of rage. This irritability manifests itself on the slightest variation from the usual or normal and extremes becomes distressing to the patient.

In the earlier stages, the irritative labile stage, the patient is trying to go faster and faster. One of my patients expressed it in the following manner: "When riding in a stret car, in an automobile, or even a train, no matter how fast it goes I feel like getting out and pushing." This tendency to speed up manifests itself in other ways. During the early stages of the disease these persons are able to and often do turn out a prodigious amount of work, but when the speed exceeds a certain limit and the exhaustion reaches a certain point, the quality of the work begins to deteriorate, gradually gets poorer and poorer until it no longer can pass inspection, and when this point is reached the quantity of output rapidly decreases until eventually all work is impossible.

Nearly all of these patients suffer to a certain extent from restlessness in their sleep, dreaming much and particularly going through difficult tasks such as climbing mountains, carrying heavy burdens, etc., and waking up in the morn-

ing utterly exhausted. With quite a number insomnia becomes a serious matter.

Headache is a common symptom. It may be frontal, temporal or occipital, or more often just a feeling of fullness and constriction in the head.

Practically all of these patients show defective emotional reaction and control, probably best expressed by the word extreme. Thus they are apt to be either over-cautious or reckless, timid or foolhardy, shy or over-confident, extremely reserved or obnoxiously bold, mushy or stubborn, over-credulous or over-suspicious, intemperate or ascetic, stingy or extravagant, haughty or servile, taciturn or garrulous, and only too often such an individual behaves like an over-tired, peevish child. They are apt to be excessively vain and hence subject to flattery, often stubbornly adamant to the good advice of their best friends and liable to do anything and everything to their own detriment in the hands of designing flatterers. Many of them suffer from abnormal humility and self-depreciation and again others from an exaggerated ego, over-estimating their own importance to society, the quality of their work, and even the value of their possession; constantly bragging about themselves and always dealing in superlatives and gross exaggerations. When this state of mind, which I have sometimes felt like calling "caput magnum malignum," is associated with another symptom which I have sometimes called "limelightitis," is acquired late in life, it is almost always a part of the condition under consideration and if other symptoms of this disease are found is rather conclusive evidence that the disease is far advanced.

The sloven, the laggard, the phlegmatic and the weak-willed are rarely ever affected. It attacks the finest type of men and women, usually in middle life, greatly shortens their period of usefulness and their enjoyment of life, leaves them partial wrecks or complete derelicts just at a time when their experience and mature judgment would make them especially useful to the community, state and nation; wracks their later years with pain and suffering and robs the aged of the peace and serenity to which those who have faithfully served their fellow men are justly entitled.

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THE DIAGNOSIS OF FOREIGN BODIES IN THE BRONCHI*

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My object is not to endeavor to discuss all the phases of this subject to bring before you certain points in the symptoms and signs which bear particularly on the diagnosis of foreign bodies in the bronchi. You may regard the subject as belonging to the curiosities of medicine rather than to every day work, but there are many cases of foreign bodies in the bronchi which are unrecognized and no one knows when he may meet a case. The number of patients who have carried a foreign body for years without any suspicion of the fact is a proof of the frequency with which they are missed. A great deal of gratitude is due Chevalier Jackson both from patients and from members of the profession. He has saved many patients and instructed us on a subject of which we knew little.

First in the question of diagnosis is the need of having the possibility of a foreign body in a bronchus in mind in the investigation of every puzzling case of respiratory disorder. If this is done and the matter considered it is evident that the chances of correct diagnosis are increased. If it is not thought of, only some additional evidence, such as from an x-ray examination, may set us right, but this only in the case of foreign bodies which show on an x-ray plate. Probably 15 per cent. of all foreign bodies do not, and it is for the recognition of these that the study of symptoms and signs is so important.

History. It is striking in going over the histories, especially in the cases of long duration, to note how little attention was paid to this in some instances. For example, one child insisted that she had aspirated a foreign body but no one paid any attention to her story. A recurring cough received little attention until its becoming almost constant many years later suggested an x-ray examination, which proved the truth of her statement. This inattention is perhaps partly due to the lack of recognition of the fact that a foreign body may be aspirated into the larynx with comparatively little distress or disturbance. There are numerous instances in adults in which

*Read before Tri-State District Medical Association, at Milwaukee, Wis., Nov. 17, 1921.

they knew what had occurred and were able to give an account of the symptoms, which may not be severe. In other cases there is not the least suggestion in the history which gives any clue as to the time of the aspiration. In young children there may be no possibility of getting any history if the child was alone at the time of the aspiration. Careful inquiry may give a clue and in the case of the most deadly of all foreign bodies—the peanut—it is often possible to find that the child had been given or obtained a peanut. Evidently a history of cough dating from the extraction of teeth under anesthesia is significant.

Symptoms. These must vary with the character of the foreign body and all grades from slight discomfort with some cough to symptoms of great severity may result. A safety-pin in a bronchus may give few symptoms, but a seed or a nut in the trachea or a peanut in a large bronchus may cause the most acute respiratory distress. There are all variations from slight discomfort to the most severe dyspnea. At the time of and shortly after aspiration there may be discomfort or pain and paroxysms of cough. These may be of short duration if the object passes into a bronchus, but should it remain in the trachea varying grades of obstruction occur and consequently varying symptoms. It is convenient to separate the symptoms of what may be termed acute cases from those of longer duration, which may be called chronic. The symptoms in acute cases may be largely mechanical due to marked obstruction in the larynx and trachea or to irritation set up by the foreign body with resulting swelling and obstruction. The mechanical symptoms require no discussion as their nature is evident. The symptoms due to irritation are shown in the peanut cases in which a most intense purulent laryngo-tracheo-bronchitis results. Here the picture is of an acute respiratory tract inflammation with dyspnea and distress.

In the chronic cases the symptoms are such as result from a local lesion which may irritate a bronchus or partially or completely plug it. Cough is variable, slight or marked, constant or paroxysmal, depending on the condition. Should abscess or bronchiectasis result the usual symptoms result. Pain is not necessarily prominent but may be fairly marked.

General Features. These evidently will vary with the character of the foreign body, the changes it has produced and the complications. A safety-pin may give no general features while an object which plugs a bronchus may be accompanied by infection or bronchiectasis followed by abscess. Hence there is no one description which can be given. What may be termed the very acute cases—as from the aspiration of a peanut—show the picture of a very intense toxemia with features suggestive of a general acute respiratory tract infection. The cases in which a body is aspirated but does not plug a bronchus may give very little in the way of general disturbance. Chronic cases show features dependent largely on the secondary changes, such as purulent bronchitis, abscess and bronchiectasis.

Fever. This is frequent and may show many variations. An irregular curve is common both in acute and chronic cases. In the latter the curve is that of sepsis with frequently a large excursion in the twenty-four hours.

Dyspnea. In the acute cases this is extreme and may suggest laryngeal diphtheria, a probable error as there may be considerable laryngeal obstruction. The height of the fever is against this diagnosis. In the less acute cases there may be dyspnea only on exertion or movement. In children the act of crying or a change in position may bring on dyspnea.

Cyanosis. This may be extreme in the acute cases but is rarely marked otherwise.

Clubbed Fingers. This is a common change in long continued cases but differs in no way from that due to any chronic thoracic septic process.

Growth. In children with a foreign body present for some time there may be marked interference with growth. In such cases there is usually septic absorption.

The physical signs which are most important may be summarized as follows:

1. *Inspection.* In every case seen by me there has been definite diminished expansion on the affected side. If the foreign body has shifted from one side to the other or is situated at the bifurcation of the trachea the expansion may be decreased on both sides. In some cases in which the foreign body was a pin, decreased expansion was the only sign. If the foreign body has acted as a ball valve and allowed air to enter but not to escape, the affected part of the lung will be distended and that part of the thorax be

fuller—but the expansion is less. The extent of movement of the diaphragm is important to note.

2. *Palpation.* The vocal fremitus varies with the condition present. If a bronchus is completely plugged, vibrations will be absent over the supplied portion of lung. If the closure is intermittent the vibrations may be absent at one time and present at another. If the bronchus is partially obstructed there may be a decrease in the vibrations. In young children it may not be possible to gain much information from the study of the fremitus.

3. *Percussion.* Evidently the findings must vary greatly. With a ball valve action of the foreign body the affected portion of the lung becomes markedly emphysematous and hence yields hyperresonance or tympany. With complete plugging of a bronchus there will be flatness over the affected portion of the lung as soon as all the contained air is absorbed. If the plugging is not constant there may be some resonance at one time and none at another but there is usually some grade of dullness. The sense of resistance will vary with the condition present. With collapse of a portion of lung there is likely to be tympany for a time. There may be varying grades of combinations of dullness and tympany, especially in children, in whom hyperresonance and tympany are common. These are often very confusing but a careful comparison with the note elsewhere will usually lessen the difficulty.

4. *Auscultation.* The most diverse findings are to be expected and the signs may vary from hour to hour if the bronchus is not completely plugged. The degree of collapse of the lung, the amount of contained air and fluid, the extent of fibroid change, the presence of abscess or bronchiectasis, all influence the signs. Over a lobe, the bronchus of which is completely plugged, as a rule the breath sounds are absent but occasionally, and especially in children, distant breath sounds may be heard. Over the portion of lung supplied by a partially obstructed bronchus the breath sounds are harsh and rough with prolonged respiration, accompanied by many rales, usually coarse, sometimes bubbling and with both inspiration and expiration. Over other parts of the lung of the affected side and on the other side the findings depend on the amount of irritation set up and the presence of secretion. Rales may be heard everywhere in the acute cases.

There are several special points worthy of notice.

1. With some foreign bodies in the trachea, such as a melon seed, there may be very curious sounds produced, quite unlike other sounds connected with the respiratory tract, and very suggestive of the diagnosis. These sounds have a flapping quality.

2. In some cases in which there was a small metallic foreign body in a bronchus, not sufficiently large to cause any marked obstruction, very fine rales of a curious character have been heard. These have been described as "tissue-paper" rales, and are such as might be produced by the movement of the finest grade of tissue paper. They have been heard at the end of inspiration and are much finer than the fine crepitations heard at the early stages of lobar pneumonia. On a hasty or careless examination they are so fine that they would not be heard. I have never heard similar rales in any other condition. Naturally one hesitates to say that these are absolutely peculiar to a small metallic foreign body.

3. The "asthmatoid wheeze". This is a sign of considerable value if present but no weight should be palced on its absence in excluding foreign body. This is a wheezing sound which may be heard usually close to the open mouth of the patient, either by listening with the ear or sometimes if the bell of the stethoscope is held close to the mouth. It is usually brought out best by having the patient make a forced expiration. The wheeze varies a great deal in loudness: sometimes it can be heard at a considerable distance from the patient. If present is is usually most marked during expirations.

There are certain occurrences which may modify the clinical features and cause difficulty in diagnosis. Among these are:

1. *Change in position of the foreign body.* If the object has been on one side for a time and then is dislodged, reaches the trachea and goes down a bronchus of the other lung a very puzzling set of signs results. A foreign body may be dislodged, reach the trachea and then be caught at the bifurcation, giving rise to signs on both sides. In the absence of any history of a foreign body the diagnosis may be very diffi-

cult for some days as signs persist on the side first involved.

2. *Symptoms due to secretions.* Evidently these may reach other bronchi than the one affected to be carried over to the bronchi of the opposite side. The signs of a foreign body are found on the affected side and those of a varying degree of bronchitis in other lobes or in the other lung. Difficulty may come from a foreign body in the esophagus causing secretion which is carried up and passes into the trachea, usually setting up a diffuse bronchitis.

3. *Previous bronchoscopy.* If this has not been skilfully done there may be considerable trauma and when the patient is seen later it may be difficult to say which signs are due to it and how much to a possible foreign body. I have seen recently two patents with Dr. Jackson in whom bronchoscopy (done elsewhere) had caused severe trauma and in whom we were never able to find any evidence of a foreign body. In both these cases the foreign body was supposed to be a substance which would not show in the x-ray plate. The chief aid in diagnosis in these cases is in waiting until the symptoms and signs due to the bronchoscopy have had time to disappear.

Rare accidents may give very complicated pictures. Following bronchoscopy (done elsewhere) pneumothorax occurred on the affected side. As this foreign body was one which did not show in the x-ray plate, the difficulties of diagnosis are evident. Even before the air was absorbed it was possible to be fairly sure of the condition by x-ray study.

Mention should be made of special groups of cases in which the diagnosis is most often missed.

Arachidic Bronchitis. Drs. Jackson and Spencer have used this term to designate bronchitis which follows the aspiration of a nut, especially a peanut. The severity of the symptoms is in direct ration to the age. It is a very severe and dangerous condition in young children, which may be mistaken for laryngeal diphtheria, infective laryngo-tracheitis (from some cause other than a foreign body) or bronchopneumonia. The absence of breath sounds over a lower lobe has led to the diagonsis of empyema. The children are usually very ill, showing dyspnea and restlessness, often extreme toxemia, cyanosis, severe cough, sometimes paroxysmal, and possibly a pink tenacious purulent sputum if the child is old enough to expectorate. The picture is suggestive of a very severe bronchopneumonia, often with evidence of laryngeal obstruction due to the local swelling. The signs of obstructed inspiration may be marked. In some cases the cyanosis is succeeded by pallor suggesting circulatory failure. The "athmatoid wheeze" is often present. There is high irregular fever with a rapid pulse and respiration rate. The thorax shows asymmetry, as the affected side is often over-distended but it shows less respiratory movement. Percussion over the affected side may show hyperresonnance or tympany if the lung is over-filled with air (ball-valve action). On auscultation the breath and voice sounds are decreased or absent over the affected lung. Many rales, usually loud and coarse, sonorous and sibilant are heard, and they may be equally numerous and loud on both sides.

The diagnosis of *broncho-pneumonia* may be suggested but the evidence of involvement of one lobe or one lung, the absence of dullness, ahe breath sounds being harsh but not tubular, and the absence of fine rales should prevent this mistake. From *laryngeal diphtheria,* the high fever, the negative bacteriological examination, the fact that the voice is not lost and the presence of local signs in one lobe or lung should assist. When there are marked signs in a lower lobe, due to the bronchus being plugged, the diagnosis of *empyema* has been made but the signs elsewhere, the absence of the resistance so characteristic of empyema, the area of dullness (corresponding to a lobe) and an x-ray study should prevent thi serror. The use of the needle should rarely be necessary. *Infective laryngo-tracheitis* may cause difficulty but the absence of any local signs pointing to the involvement of one lobe or one lung should soon settle this question. Emphasis is laid on the value of inspection as showing local change.

Some of the cases in which seeds have been aspirated give great difficulty. If they plug a bronchus there should be comparatively little difficulty, but a small seed or a small portion of a nut may only partially obstruct. An example is under observation at the time of writing. A child aged 27 months aspirated portions of an almond nut. Dr. Jackson removed one portion from the birfurcation of the trachea and another from the *left* main bronchus. There was a very intense laryngo-tracheitis which required

tracheotomy the next day. Fever has continued with the expulsion at times of a very foul material from the tube. A week later the child showed less expansion of the lower right thorax, with varying degrees of percussion note and loudness of breath sounds. Does this mean that a small portion of the nut is in the lower right lobe bronchus? If so, it does not plug it entirely. Or are these signs due perhaps to secretions which gravitate to the lowest part and more on the right side? (The subsequent course suggests the latter explanation.)

Chronic cases. In these the foreign body usually plugs a lower lobe bronchus. The signs are usually clear—the bronchus is plugged. Two errors are common, a diagnosis of empyema or tuberculosis. Sometimes an abscess or bronchiectasis may be recognized but the foreign body is overlooked. The diagnosis of *empyema* should be excluded by the area of dulness, the resistance over which is not that of fluid, the use of the needle and an x-ray study. As to *tuberculosis,* there is no excuse for this error. It is very rare to have a basal tuberculous lesion without apical involvement and a diagnosis of *chronic* tuberculosis without tubercle bacilli in the sputum is to be looked on with great suspicion. If abscess or bronchiectasis is recognized, only the thought of a foreign body as a possible cause may clear the matter. The error for which there would be more excuse than any other is thickened pleura but apparently this is rarely made. The greater error of diagnosing empyema is the more common one. There may be some thickening of the pleura over the affected lobe.

It is evident that the diagnosis must be much more difficult in the case of foreign bodies which do not show in the x-ray plate. This emphasizes the value of careful study of the signs in cases which do not show so that the knowledge gained can be applied to the other group. In some cases also the signs may suggest the need of an x-ray plate. One phase of the x-ray study is of interest as a result of the study of Dr. Jackson's patients and I hope that Dr. Manges will not mind my mentioning it. Dr. Manges can diagnose the presence and position of a foreign body which does not show in the x-ray study about as accurately as one which does. This his resulted from a careful study of all cases with special attention to the changes in the lung. We should try to do the same by means of physical signs. No better example of the value of this can be shown than by the recognition of a small portion of a foreign body remaining after the main part has been removed. This occurs, for example, when several pieces of a nut have been aspirated. The larger portion or portions may be removed and a smaller piece remain.

In conclusion, remember the possibility of a foreign body in every case of doubtful respiratory tract diagnosis—and also in what may seem to be a perfectly clear case. Study the physical signs carefully over and over again. Watch carefully from day to day and remember that rule of thumb methods are not sufficient—the signs in each patient must be carefully observed and then studied. If we remember that the presence of a foreign body has to be excluded, our mistakes will be reduced to a minimum.

A REPORT OF DEEP X-RAY THERAPY AS PRACTICED IN GERMANY

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It can be stated positively that x-ray therapy of cancer as practiced in Germany during the past eight years differs essentially from that practiced in America during the same time and as the result of a long series of carefully worked out experiments and studies in physics and biology followed by clinical application a new science has been developed; a science as important in the advancement of medical practice as immuno-therapy or chemo-therapy.

Ever since Nicholas Senn in 1902 reported the disappearance of leukemic tumors following the application of the x-rays of those days, x-ray therapy has been able to produce an occasional astonishing result, but outside of skin lesions, there has been nothing consistent in the results achieved. I am convinced that with these more exact, more direct methods it is possible to achieve consistently uniform results not only on the skin but in deep-seated lesions previously beyond the reach of the x-ray.

This has been made possible by the development of Roentgen therapy along two lines, 1. the development of more penetrating rays, 2. the perfection of methods of measurement of dosage, the latter being even more important than the former.

The higher penetration of the x-rays has been achieved by activating x-ray tubes at a considerably higher voltage as it has been found that the higher the voltage the shorter the wave length, the shorter the wave length the more penetrating the ray.

These more penetrating x-rays of short wave length are separated from the "softer" or less penetrating x-ray (those that are ordinarily absorbed by the skin and superficial layers of tissue) by a high degree of filtration. Instead of filtering through three to five millimeters of aluminum, a very light metal, the filtration as at present used is one millimeter of copper or its equivalent. By this filtration the only rays utilized have a very short wave length, or high penetration, and from twenty to forty-five per cent. of the dose delivered on the skin will penetrate to a depth of ten c. m. below the surface, depending upon the size of the area radiated, the distance of the tube from the skin surface and a number of other factors.

In the past, the usual method of measuring x-ray dosage has been by the so-called "milliampere minute" method; that is, by stating the amount of current passing through the x-ray tube for a given number of minutes. No attempt was made to indicate the quality of x-ray used. Photographic methods were also employed but were found so inaccurate that they were of little value and have been largely discarded.

The newer methods of measurement as developed by Professor Friedrich at the University of Freiburg and Professor Dessauer at the University of Frankfort utilized the property of the x-ray to ionize the air. By allowing the x-ray to act upon a given volume of air for a given length of time a certain amount of ionizing effect is produced; the ionized air permits a certain amount of electric current to pass and this effect can be measured by an electroscope. By years of careful study and experiment they have been able to develop instruments that are scientifically exact, easily manipulated and while delicate are still sufficiently rigid to be used in clinical work and an accurate determination can be made of not only the quantity of x-ray utilized but its quality as well. This means that at last, we can measure x-ray dosage on the surface and in the depth and this makes the scientific application of this valuable therapeutic agent possible.

The desired result in x-ray or any other treatment of cancer, be it medical, surgical or radiological, is to produce the maximum damaging effect upon the malignant growth with minimum damage to the healthy tissues and the patient's general condition.

The tissues of the body differ widely in their susceptibility to radiation. In general it may be stated that the more highly differentiated the tissue, the less susceptible, for example, the cells of the liver, kidney or brain are less susceptible than the cells of the skin, mucous membranes, blood or lymph glands. The cells of pathological growths being less highly differentiated are, in general, more susceptible to x-rays than are normal tissues. This fact is utilized in the radiation treatment of cancer. However, simple as the general statement may seem, the application is extremely complicated when applied to growths in the interior of the body.

From twenty to forty-five per cent. of the dosage applied to the skin—with a voltage of 200,000 and filter of one m. m. copper or its equivalent—will penetrate ten c. m.. The dosage required to affect a cancer is from ninety to one hundred and ten per cent. of the amount that will produce an erythema of the skin. Therefore, to avoid burning the skin the tumor must be reached through several different skin areas or "portals of entry" by crossfire with a summation of effect upon the tumor inside the body equivalent to ninety to one hundred and ten per cent. of the skin erythema dose. The dosage must be applied evenly throughout the tumor area—too much in one place will produce serious tissue necrosis, too little in another part of the tumor instead of damaging the tumor cells will stimulate them to increased activity. Also, while the tumor is being treated, its relation to healthy tissues and vital organs must be considered. In treating the stomach the adrenals may be seriously damaged, in treating the esophagus the heart must be protected, etc. In addition to this the general condition of the patients must be guarded—"Roentgen sickness" may be a very serious complication.

The margin of safety between the lethal dose for the carcinoma cell and the damaging dose to healthy tissues and the patient's general condition is not great and unless the treatment is carefully planned and executed little good and great harm may be done from either over dosage, under dosage or uneven distribution of dosage.

For this reason every x-ray machine used should be of sufficient size to deliver penetrating x-rays—a voltage of at least two hundred thousand at the tube, every machine and every tube should be carefully calibrated to determine exactly what it will deliver. Every patient should be treated individually depending upon his size, thickness, location of the tumor in the body, relation of tumor to normal tissues, and organs, size of tumor and the histological character. The general condition of the patient should also be considered and if anemic he should have the advantage of arsenic treatment—atoxyl (Blumenthal)—or blood transfusion—(Warnekros) before and after the Roentgen application.

If these factors are all carefully considered; if the capacity of the x-ray machine and tube are known; if time, distance, size and location of "ports of entry" are plotted and charted on basis of penetration as determined by Dessauer's charts, uniform and consistently good results may be expected—not a high percentage of permanent cures, but far better than anything we have had in the past. As Professor Blumenthal, Director of the Cancer Research Institute, University of Berlin, has said, "We are a long way from solving the cancer problem, but cancer is no longer the hopeless thing that it was."

RESULTS

The most striking example of uniform success with deep therapy is seen in cancer of the uterus. This is because the uterus itself is an organ that is not vital, there are no other organs in its immediate vicinity that are likely to be seriously damaged by a dose of x-ray that is lethal for cancer cells and the uterus is centrally located and can be reached from all sides. Most cases which I have seen in Germany are treated with radium and x-ray both. The difficulty of radium treatment alone is in reaching the glandular involvements in the broad ligaments and sacral lymph nodes.

The futility of radium treatment alone is shown by the following statistics from Hartman on one hundred cases of carcinoma of the uterus living at the end of:

First year	53
Second year	17
Third year	13
Fourth year	0

By using the x-ray in addition to radium from front, back and the sides the entire pelvis can be successfully and uniformly radiated.

Doderlein has not operated on a case of cancer of the uterus during the past eight years and of cases treated between the years 1913-1916 he has recently made the following report based on five-year cures:

Cases ordinarily considered operable.....	77	Cured 48%
Cases ordinarily considered borderline.....	90	Cured 20%
Cases ordinarily considered inoperable	214	Cured 6%

Beclere of Paris reports sixty per cent. cures in operable cases, and twenty-three per cent. cures in the border-line and inoperable cases.

These statistics certainly speak for themselves.

The fact that at a number of the most important clinics in Europe radiation has supplemented surgery in cancer of the uterus is convincing—the primary operative mortality of twenty-five per cent. is eliminated and the permanent results from radiation are just as good or better than those from surgery alone.

Cancer of the Breast.—Next to cancer of the uterus the most important field for radiation therapy is in cancer of the breast.[1] The treatment usually consists of a combination of radiation and surgery. The breast amputation can usually be done quickly, completely and with a low operative mortality but in spite of this the number of recurrences with surgery alone is surprisingly high.

Blumenthal of the University of Berlin, Institute for Cancer Research, states that over fifty per cent. of their operative cases had recurrences. This he considers high, but remarks that the class of cases coming to such an institute are not as favorable as those coming to the usual surgical clinic. However, Techy (Payer) Marburg (Leipzig), Anschutz (Kiel), Muller (Rostock), state their permanent cures are only between forty-five and sixty-five per cent. for surgery of the breast.

Holfelder, University of Frankfort, states that in one hundred cases of breast carcinoma in which radiation was used in conjunction with surgery during the past two years only two recurrences have occurred. He considers the best technic as follows: 1, radiation; 2, operation—total amputation; 3, radiation immediately after amputation, then one-quarter, one-half and three-quarters of a year after operation.

Perthes states that he has had only twenty-six per cent. permanent cures following operation combined with radiation. His opponents state that his radiation has been too weak and that.

[1]Cited by Provost, Press Med., Feb. 1, 1922.

in fact, he has been supplying stimulating doses.

It is the consensus of opinion in Europe, as in America, that while radiation does not absolutely protect against recurrence in carcinoma of the breast it has a very definite prophylactic value and that with its use the life period can be materially lengthened.

Cancer of the Gastro-Intestinal Tract.—Cancer of the rectum, sigmoid and colon are not favorable cases for treatment. The colon and sigmoid are more favorable than the rectum. However, it is felt that while sufficient statistics are not available, the results from radiation and operation are better than from operation alone, that while an occasional brilliant result may be achieved by either radiation or surgery the best results are achieved by using both agencies, and even with both agencies used to their utmost the permanent results are few. However, temporary relief and prolongation of life are the rule rather than the exception.

Cancer of the Stomach is difficult to radiate because of the proximity of the adrenals. Temporary results are all that can ordinarily be expected; the mass may be made to disappear, obstruction relieved, general health improved and patients are able to return to work in cases in which the carcinoma is located on the lesser curvature at the pylorus and especially if of the scirrhus type. Large widely diffused carcinomas do not respond to radiation.

Cancer of the Tongue and Floor of the Mouth are not favorably influenced by x-ray radiation. It seems that the air cavities of the mouth and pharynx disperse the radiation to such an extent that homogeneous deep radiation is impossible. Radium is a far better agency in this location.

Carcinoma of the Bladder and Prostate are successfully treated by deep x-ray radiation. A number of cases are on record of complete recovery after several years. In a number of cases in which the size of the tumor of the prostate was reduced by radiation and then operated on, the preliminary radiation had not complicated the operative procedure by over growth of fibrous tissue.

Sarcoma.—Sarcoma is especially suitable for x-ray therapy; the dosage required for sarcoma is sixty per cent of the skin erythema dose—and the results are uniformly good.

It is the consensus of opinion that these cases under no condition should be operated on—the operative procedure increases the chances for metastasis tremendously and the radiation alone is sufficient.

Palliative Results.—Even in cases that are hopeless, in those cases that are so advanced no agency could reasonably be expected to produce a cure, the palliative effects are gratifying. These people, suffering from the most horrible and disgusting of all diseases, are relieved very frequently of a repulsive discharge, disgusting odor and in many instances of an almost unbearable pain.

SUMMARY

1. Intensive x-ray therapy as practiced in Europe differs essentially from that practiced in America, and represents a distinct advance in the treatment of cancer.

2. This advance is due to the 1, development of more penetrating x-rays and 2, to improvement in instruments for the measurement of dosage.

3. Great care must be used in utilizing this new method of treatment. It should be used only by physicians and surgeons possessing adequate apparatus for developing penetrating rays and accurate instruments for measuring the rays and by those thoroughly trained in the use of these instruments. Otherwise it is dangerous.

4. In cancer of the uterus radiation is better treatment than radical operation; with it, in operable cases thirty per cent. permanent cures may be expected, in more advanced cases prolongation of life and relief of symptoms.

5. In cases of breast carcinoma radiation and surgery combined produce the best results.

6. Sarcoma is readily amenable to x-ray therapy.

7. In cancer of the bladder and prostate good results may be achieved; in cancer of the gastro-intestinal tract while temporary and palliative results may be fairly good, permanent cures are rare.

THE PRESENT STATUS OF CHRONIC GASTRITIS.*

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In looking over the various text-books on diseases of the stomach, one is struck with the feeling that after reading the chapters on chronic gastritis he knows about as much as before, or perhaps ends by being more confused. On this account the writer has often questioned the actual occurrence of such a disease clinically, in spite of the fact that world renowned gastro-enterologists continue to work on this subject and are apparently satisfied that this disease exists.

In considering this subject three questions come up for solution:

1. Is there such a condition as chronic gastritis pathologically?
2. Granting that there is such a condition anatomically, does it produce clinical symptoms or physical findings?
3. If there are clinical manifestations, are they sufficient to allow a diagnosis?

Allen A. Jones writing in Nelson's Loose Leaf Medicine refers particularly to alcohol as a causal factor and also to gastritis secondary to cardiac, pulmonary and hepatic conditions, or to pernicious anemia. It would seem that as a rule these cases of secondary gastritis may, at least from a clinical and practical view-point, be ignored as the picture of the ordinary disease overshadows all else. Also, it would seem at least possible that gastric symptoms occurring in cases of heart failure or other conditions producing venous stagnation below the diaphragm, are due, at least in part to enlargement of the liver. This may react on the stomach by pressure or reflex or perhaps the faulty metabolites of the liver may after absorption effect the stomach as well as other organs.

Martin E. Rehfuss in Oxford Medicine goes into the etiology at length but gives pathology scant consideration. A. Gigon in *Handbuch der Inneren Medizin* mentions hypertrophic and the atrophic varieties of chronic gastritis.

Knud Faber (*Spezielle Pathologie und Therapie innerer Krankheiten*) goes into pathology at length. He refers to the early pathological report of Broussias, Andral, and Louis in the beginning of the Nineteenth Century. The microscopic findings were, redness, extensive discoloration, and mucoid degeneration of the mucous membrane in connection with softening and thinning of the stomach wall, or a warty appearance with thickening of the mucous membrane to which the term "etat Mamellone" has been applied. He then goes on to say that it was later learned that most of these lesions were of *post mortem* origin and due chiefly to the effect of the gastric juice on the mucous membrane. John Hunter mentions this and in 1838 Robert Carswell in animals demonstrated this *post mortem* self digestion. Elsasser, 1846, demonstrated that the gastric softening of the new-born was due to auto-digestion. In 1854, Engel in his book *"Darstellung der Leichenerscheinungen,"* gave a description of the changes occurring in the digestive organs after death and criticized severely the prevalent teaching at that time in regard to chronic gastritis, stating that these findings were merely a common autopsy manifestation. However, his opinion seems to have had no influence as in 1861 Rokitansky in his Pathological Anatomy, 3rd edition, gave the usual description of the condition. Engel's view-point was finally accepted; "aside from the polypoid inflammatory new formation, the pathological anatomist seldom dares to diagnose chronic gastritis from the macroscopic appearance and especially not on the basis of color change, mucoid degeneration, or because of the appearance of 'Surface Mamellonee' which usually is the contraction of the remaining mucous membrane."

E. Kaufmann in his book on pathology takes up this post mortem change in the gastric lining and then further on gives a full description of the anatomical changes in the stomach of chronic gastritis.

It would seem, therefore, that the consensus of opinion favors the existence of a chronic gastritis from a pathological view-point, either grossly or microscopically, in spite of the fact that many of the *post-mortem* findings represent self-digestion. You will naturally inquire as to whether it is not possible to introduce into the stomach (either by stomach tube or trocar) some fixing fluid, such as formalin. This has been done. However, death does not affect the entire

*Read before the Physicians' Club of Mishawaka, Ind., January 18, 1922.

body simultaneously. In a practical way we consider that the individual has died when his respiration and heart beat have ceased. It would seem very possible or even probable that during the last hours, with a waning vitality, changes may occur in the mucous membrane of the stomach while the patient is still alive.

We come now to the second question under consideration, "granting that there is such a pathological condition as chronic gastritis, does it produce clinical symptoms or physical findings?" Rehfuss in the article above referred to, gives very little about the pathology but does furnish a rather elaborate differential diagnosis dependent chiefly on the analysis of the gastric contents. Gigon, in describing the symptoms of this condition starts out by saying, "Chronic gastritis furnishes variable symptoms and it is hardly possible to give a sharp-cut clinical picture of this disease."

Most authors state that the appetite varies—may be good, poor or whimsical. Bad taste in the mouth, *fetor ex ore,* especially mornings. Immediately after meals or up to hours later there may be a feeling of fulness in the epigastrium. Yawning may occur as may also belching or hiccups. Sometimes there may be a pain which may be of cramp-like character or there may be heartburn. The commonest kind of discomfort is the variety occurring several hours after meals. Vomiting is not a constant occurrence. You will readily see therefore that these symptoms are so indefinite, not alone in regard to their character but also in regard to the time of occurrence that it is very difficult to make much use of them from a diagnostic standpoint.

The mucous vomiting in the morning of alcoholics is said by Boas (and there seems to be no reason for doubting this) to be a symptom of chronic pharyngitis and esophagitis, having nothing to do with the stomach. However, mucus in the stomach contents is the most important finding according to most authors as a diagnostic sign. It is generally pointed out that the mucus due to gastritis may be differentiated from that which has been swallowed by the fact that in the former it is in smaller masses and mixed with the contents, whereas in the latter it is more stringy and tends to float on top of the recovered material. It would seem to the writer that mucus, intimately mixed with the stomach contents as the chief factor determining the presence or absence of a chronic lesion of the stomach, is rather uncertain because in practically any aspirated material it is possible by pouring slowly from one vessel to another to see little particles of mucus passing over, even when we have no suspicion of the possibility of chronic gastritis.

Now we come to the third question, "Granting that we have clinical manifestations, are they sufficient to allow one to make a positive diagnosis of chronic inflammatory disease of the stomach?"

Up to this time the endeavor has been to furnish as far as possible unbiased facts from the writings of others. From now on, it is purposed to present some personal impressions.

As mentioned above, it would seem to the writer that the finding of mucus in the stomach contents is a rather uncertain thing upon which to base a diagnosis. And yet, practically all writers agree that this is the only positive finding in the disease under consideration. Mucus can be readily swallowed either before the aspiration or during this act. If a person has some inflammatory process in the upper air passages (nose, sinuses, etc.) it is a very common thing to continuously swallow mucus. In the use of the stomach tube, even though one is very dextrous and recovers the contents in a very short time, there is still a possibility of increased mucous secretion from the pharynx and esophagus slipping down along the tube into the stomach. It is not difficult to believe that the stomach during the retching movements may readily stir up this material so it becomes pretty well mixed with the remainder of the contents. If this is true when the stomach tube is allowed to remain in place for only a short time, it is of course much more apt to occur if the passage of the tube consumes considerable time and especially if it produces nausea, retching, etc. From what has just been presented, it would seem justifiable therefore if we see fit to minimize as a diagnostic factor the presence of mucus in the aspirated contents or in vomitus. It has been commnoly stated that catarrhal inflammation is common to all mucous membrane and that the stomach can be affected as well as any other organ. We know now that at least some of these so-called catarrhs are not in reality inflammation of the mucous membrane itself. For example, what we formerly thought to be a catarrh of the nose, we know now is due either to mechanical difficulties or

to infected accessory sinuses. Years ago it was not uncommon to diagnose catarrh of the bronchial tubes, and I think you will agree with me that many of these patients are now dead of pulmonary tuberculosis. It might be in place here also to bring up the question of the status of mucous colitis, which on the face of it may seem to be an excellent example of catarrhal inflammation. However, in looking at this disease from all angles, it would perhaps be more just to classify it along with the intestinal neuroses. It would seem difficult therefore to find elsewhere in the body, any manifestation analagous to that supposed to occur in the stomach with chronic gastritis.

It will have to be admitted that chemical irritants (alcohol and tobacco) may produce a catarrh of the pharynx and esophagus and one might expect to find a similar condition in the stomach. Granting that this is possible, we must next answer the question "does it actually occur?" The following from Abraham's Revision of G. Herschell's Text Book on Indigestion is relevant:

"There is a tendency to describe all stomach disturbances irrespective of symptoms, and independently of more exact investigation of the patent, by the term 'Chronic Gastritis.' This condition accurately considered is comparatively rare. Goodhart has pointed out that the stomach does not easily catarrh. (Goodhart's Common Neuroses, London; H. A. Lewis, 1894.) We know as certain as we know any fact in physiology or medicine, that of all the multitudinous sins of omission, that are done to its would-be detriment there is happily not one in a hundred, if so many, to which the stomach deems it necessary to turn a hair. Were it otherwise, civilized humanity would not last out two or three generations. Except when due to excess of strong alcohol, chronic gastritis most frequently indicates severe organic disease of some important organ. A diagnosis of chronic gastritis based on subjective symptoms or external maintestation alone lacks scientific foundation; a correct diagnosis of this can be determined only with the stomach tube."

As mentioned above, the majority of observers agree that the only definite criterion of chronic gastritis is mucus in the stomach contents. If we are willing to admit that the mucus found in the aspirated material is of gastric origin, then the only remaining question is whether or not a reflex from a distant organ (appendix, gall-bladder, etc.) may not bring about an increased production of mucus from the gastric mucosa. It seems that in the colon it is possible to have this occur on a pure nervous or perhaps reflex basis. Is it not reasonable to suppose therefore that this may also occur in the stomach?

Hydrochloric acid is produced in the stomach as a highly specialized function of the parietal cells of the gastric glands. One would rather expect that in case there were any inflammation of the mucosa that this function would be always diminished. However, we are told that chronic gastritis may be observed with a high gastric acidity, normal amount of acid, or a diminution in the amount of this secretion. It is strange that any given pathological process should be so variable in its manifestation.

In the medical clinic of Bassel in the years 1909 and 1914 there were 1,505 cases with digestive disturbance and of this number 139 (9.2%) were diagnosed as chronic gastritis.

The following cases illustrate the difficulty of endeavoring to diagnose chronic gastritis from the symptoms. The first case is that of a lady, thirty-six years of age, stenographer, single. She complained of belching and gas two or three hours after a meal with pressure and heaviness in the epigastrium at the same time. Sometimes it comes on immediately after eating. Appetite is variable, sometimes very poor and at other times ravenous. No vomiting. Some nausea at times, dizziness also. Bad taste in the mouth resembling the taste of copper. Slight loss of weight. Bowels regular but is taking mineral oil at present. Examination showed that she was somewhat tender in the right hypochondrium and slightly tender in the epigastrium. The test meal shows Hcl. 4 and Total acidity 9 and the contents showed small flakes of mucus.

The patient some eight years ago had an attack of what was thought at that time to be acute appendicitis, keeping her in bed three days; this would lend color to the possibility of a chronic appendix or a chronic cholecystitis.

The operation disclosed a chronic appendicitis with adhesions.

Mrs. M. Di L., married. Age 23. Duration of illness about four years. Began with discomfort in the right iliac region without relationship to meals. Shortly after this a feeling of distress in the epigastrium coming on an hour or two after meals. Two years ago appendectomy practically cured pain in the right iliac region. Stomach trouble persisted. Gradually began to occur a shorter time after eating and now it comes on sometimes while she is still at the table. but usually a half hour after eating. Formerly the distress would occur every day for a month or two and then she would have relief for a number of weeks. Since the baby was born seven months ago, her distress has been present practically every day.

Examination shows she is particularly tender in the right hypochondrium. Test meal shows on one oc-

casion Hcl. 20 and T. A. 42 and a later test shows Hcl. 6 and T. A. 14 with small flakes of mucus found in the stomach contents.

Patient operated upon January 25, 1922, and twenty stones were found in the gall-bladder.

In a clinic for diseases of the gastro-intestinal tract at the Post-Graduate Medical School of Chicago during the past ten years the writer has seen no case in which he has felt justified in making a diagnosis of chronic gastritis. This statement is given to you for what it is worth and with absolutely no feeling of egotism. But, whether I am right or not, or whether the men are right in reporting practically 10 per cent of their gastro-enterological material to be chronic gastritis, the fact remains that it is a very difficult and almost impossible diagnosis to make with any degree of certainty. It would seem advisable therefore, rather to withhold a diagnosis and continue the investigation of the case rather than to come out flat-footed in a diagnosis of chronic gastritis and thus close the doors to any further investigation, with the danger perhaps of overlooking an early carcinoma, or some other serious lesion.

29 E. Madison St.

SIMPLIFYING THE DIAGNOSIS OF SOME KIDNEY AND BLADDER DISEASES BY USE OF THE CYSTOSCOPE AND X-RAY*

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The more recent advancements in urology and roentgenology are responsible to a large extent for the greater accuracy and simplicity in the diagnosis of urological conditions. The established definite procedures such as ureteropyelography and cystography are now looked upon as routine methods. The roentgenologist realizes the limitations of the x-ray without the use of these methods so we make it a routine practice to combine both the cystoscope and x-ray in the study of all urological conditions. While large clinics have combined the cystoscope and x-ray in studies of the urinary tract, there is room for a more general adoption of this method.

The usual reasons why more patients are not given more complete examinations are:

First. The lack of proper x-ray facilities.

Second. The lack of facilities for cystoscopy.

Third. The inconvenience and effort necessary to get a patient to submit to the examination and spend the necessary time and money, when the importance of such an examination is not understood by him.

The foregoing causes can usually be eliminated if the attending physician will explain to the patient the necessity of such an examination for the purpose of diagnosis and advise him to have the examination made.

Our method of procedure is as follows: When a patient in whose history urological symptoms or signs are present, reports for examination, we make radiograms of both kidneys, both ureters and the bladder. No special preparation is necessary for such radiograms as the gas which usually follows a cathartic, sufficient to thoroughly empty the intestinal tract renders the radiograms unfit for conclusive interpretation. As soon as satisfactory radiograms are secured the patient is examined from the urological standpoint including cystoscopy and ureteropyelography. This is carried out by the following method of examination.

1. Cystoscopic examination of the bladder.

2. Passage of wax bulb for determining whether a ureteral calculi or stricture is present.

3. Catherization of both ureters.

4. Relative renal functional test with phenolsulphonephthalein.

5. Determination of pelvic capacity by injecting a 25 percent solution sodium bromide to point of fullness.

6. Followed immediately by pyelography, ureterography and cystography.

Interpretation. One should be familiar with the normal kidney pelvis and the more common abnormalities. The normal pelvis varies in size, shape and position, but so long as it functions normally one should be careful and not confuse abnormalities of outline and position with pathology. The true pelvis, the major and the minor calices bear a rather constant relationship to each other. Changes in one at the expense of the other is the rule in pathological conditions. For example in the beginning of hydronephrosis the major calices broaden and elongate and the pelvis dilates and the minor calices become flattened with the irregularities obliterated. In over dis-

*Read at the 47th annual meeting of the Southern Illinois Medical Association, at Belleville, Ill., Nov. 3-4, 1921.

tention a relative enlargement of all three is present. Likewise, in incomplete injections and small pelves the pelvis and minor calices are likely to be small but bear a constant relationship.

In movable and ptosed kidneys where the ureters are circuitous as long as there is no evidence of dilatation that would suggest obstruction, the condition may not be pathological. Differentiation between inflammatory and obstructive lesions is sometimes difficult but in an inflammatory process the minor calices show greater dilatation and the major calices a clubbing effect. In necrosis and destruction there is an irregular contour. The presence of stones, calcareous deposits and pus from that side completes the picture of a pyonephrosis. Tumors of the kidney are usually characterized by a deformed pelvis, elongated calices and an enlarged kidney outline which may displace the stomach and colon toward the median line. They may be differentiated from spleen and gall bladder by stereoscopic pyelography.

Urological cases divide themselves into those giving positive x-ray findings and those giving no evidences of disease on the x-ray plate. The most common conditions which give positive findings are: Urinary calculi, deposits of mineral salts in various parts of the urinary tract and inflammatory calcification. These conditions require differentiation from those outside the urinary tract such as gall stones, calcified glands, phleboliths, fecaliths, etc. Sometimes stereoscopic plates will differentiate, but usually it is done by cystoscopy, ureteral catherization, and ureterpyelography.

We have abnormalities in the size, shape and position of the kidneys such as renal neoplasm, enlarged kidneys, renal ptosis, and perinephritic abscess, but one should be cautious in making a positive diagnosis of any particular type of pathology from the shadow of the supposed enlarged kidney. Such a mistake is easily and frequently made.

Pathological conditions in which the x-ray gives no positive evidence of diseases are far greater than those in the above groups, for instance, the different types of urinary calculi which are not visible on the x-ray plate. The calculi made up principally of uric acid are usually found in the bladder. Some roentgenologist claims that 15 percent of calculi in the kidney, 35 percent in ureters, 60 percent in the bladder cannot be shown by x-ray. If the x-ray study is negative there should be further urinary investigation if the symptoms are referable to the urinary tract.

CONCLUSION.

1. In all cases where symptoms are referable to the urinary tract the combined method of examination with the cystoscope and x-ray is indicated.

2. Urological lesions are frequently diagnosed by the aid of x-ray when the diagnosis is doubtful otherwise.

3. In 50 per cent of urological cases the x-ray shows negative pathological conditions, but with the combined method the diagnosis can usually be made.

4. X-ray findings should in all cases be verified by the urologist before a conclusive diagnosis is given.

5. The combined method is the ideal procedure in the diagnosis of most urological conditions.

GENERAL HOSPITAL BEDS FOR ACUTE MENTAL CASES.*

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The average medical man if he were to be accused of a dualistic view of mind and matter would emphatically deny this reflection upon his reasoning powers. He knows well enough that the mind is merely the brain in action, and that the brain is an organ of the body affected in its workings by physical causes. And yet the general profession is not interested in the treatment of mental disorder as it is in other specialities which seem to have a more tangible basis. The mental patient is too often only a poor "nut" to be smiled at, pitied and put away. To be sure the profession is humanely interested in any steps for the amelioration of the sad condition under which it presumes these unfortunates must drag out their life span, and occasionally are individually surprised that so much can be done with mental cases—but there the matter ends.

During the past ten years or more the writer

*Read before the Chicago Medical Society, May 10, 1922.

has talked with many medical men and knows whereof he speaks; and that, as the reflection of this attitude of mind, there is a crevasse both broad and deep between the general hospital and the private sanitarium, or State hospital. And yet of those who die in hospital beds in this country one in twenty-five dies in a State hospital. The Chicago State Hospital in the year 1919 discharged nine hundred patients as recovered or improved. Of course the vast majority of these discharges belonged to the latter group, but, upon the other hand it might be questioned how many of those discharged from a general hospital are actually recovered—when one stops to consider the enormous amount of palliative surgery that is done along with the stomach, kidney and heart cases that are only temporarily repaired and go out under a cloud of instructions as to the lives they must live if they may hope to get along at all.

Possibly this may seem to be a good argument for state hospital care but it is not—when we stop to consider the handicaps under which these institutions labor. Upon the whole the best they have to offer is group care even under the most favorable circumstances, good enough perhaps for many types excellent for some, but not sufficient for the acutely sick where every resource of medical diagnostics and treatment must be exhausted before hope of recovery is cast aside.

The Cook County Hospital has a pavillion for mental cases—the Psychopathic Hospital. It is an excellent institution and admirably managed but it is not a hospital in the sense that the rest of the institution is. Even so, during the year 1920, two hundred and fifty-nine patients were discharged as recovered and three hundred and seventy-two as improved—a most gratifying result in view of the fact that the average stay of these patients amounted to but ten days or two weeks because of the constant push of 500 admissions a month. And yet, as we all know, the chief office of the county psychopathic hospital, despite its name, is the temporary detention and speedy distribution of mental cases. What it can accomplish by way of immediate restitution is, as it were, so much *velvet*, results obtained, without extra overhead, by seven doctors, 12 nurses and 50 attendants (upon three shifts) in charge of 125 beds—*and* 500 *admissions monthly!*

When bewildered, delirious, hallucinating, anemic, poorly nourished, arteriosclerotic, intensely excited patients are passed on to the state hospital they must be cared for in large wards, buildings constructed to house two thirds of the number they contain at present. All State hospitals were overcrowded five years ago and in the last year their population has increased one thousand; i. e. Chicago 300, Elgin 300 and Kankakee 400. Individual care under these circumstances cannot be given because it is humanly impossible. The number of attendants upon duty at any one time averages one for every 30 patients and few of them have had special training in the care of acute cases. Dietary regulations can only be carried out in large groups and the resident staff, after performing its routine duties, must do the best it can by way of special examinations and diagnostic procedures.

The writer is proud of the State Service, proud of its accomplishments in the face of odds, but he would be a poor physician if he could not vision the possibility of better ways of doing things and wish for their accomplishment. However, we must be patient since today the State of Illinois is spending more money than ever before upon its insane and the public is groaning under a load of taxation that provides less than a dollar a day per State hospital bed!

Private sanitaria provide better food and a better furnished, less crowded environment. A few do something more than this. Discussion of this matter is dangerous ground. The sanitarium is a public convenience, dependent upon private enterprise and as such must make money to ensure its existence. Fifty dollars a week including medical care is not a huge sum and will not command in a private enterprise all the resources of diagnosis and treatment in cases where more is to be considered than a faulty behavior reaction, that pat phrase of recent days which so deftly enshrouds half-knowledge in a luminous mist of ambiguity.

The sanitarium is a most necessary stop gap or shock absorber between the home and the State Hospital, admirably suited to the needs of a certain group of cases but too often more closely related to the boarding house than the hospital. Cases which will recover after separation from business or family cares, together with some regulation of hours and diet do well, the remainder require more than can generally be given them in

view of the limitations under which the ordinary private institution labors.

For example, a few weeks ago the writer saw an old man, suffering from involutional melancholia, a case demanding every medical and nursing resource, anemic, self-starved and bowed down with imaginary woe, admitted to one of our State institutions. He had been in a private sanitarium and his family could well afford to give him real hospital care, but no one had advised this although in this particular locality there is a hospital which occasionally takes a mental case, if it is not noisy or violent. If the old man's life and recovery—(for he is a recoverable case), are worth while he must have more attention than a State hospital can give, a nurse both night and day, every possibility of dietary treatment, massage, occupational diversion, possibly an operation for enlarged prostate when stronger, etc. At present, in view of his financial resources, he is in the wrong place and will probably die.

Another old gentleman, suddenly excited and bewildered, especially at night, was placed not long ago in a sanitarium where he promptly developed a low grade cellulitis of the legs with an increasing degree of what appeared to be mental enfeeblement of organic type. When, as a last resort, he was removed upon a stretcher to a nursing home and place in charge of a surgeon and a trained nurse he promptly recovered both mentally and physically. The apparent organic dementia was merely a confusional state precipitated by remediable physical causes. The entire episode covered a period of less than one month but remains in the minds of the patient and family a night marish experience, due in great part to the sanitarium experience for which unfortunately the patient has only a partial amnesia. And yet, in so far as possible, he was treated kindly and carefully. The fault did not lie with the private institution, as organized to ensure its own existence, so much as with his family physician who did not know that this particular community was at least provided with nursing beds for mental patients—thanks to the clear vision of a religious order.

Consider for a moment the situation in which the patient and his family are placed at the onset of acute mental illness. Obviously the average home is no place for treatment but where in Chicago, with its numerous hospitals, can the case be taken for immediate treatment at a price within reason. If it were only a case of appendicitis, or strangulated hernia or placenta previa the problem could be readily solved. Within an hour the patient, no matter how poor, would be in a general hospital bed with abundant nursing care and the comfortable assurance that every resource of a great organization was already at work for his relief. But the mentally afflicted must be unsuccessfully, sometimes even disastrously treated at home, or hurried to an out-of-town sanitarium or sent to the County Psychopathic Hospital, along with the other hundred and twenty-five patients of that week's intake, from whence in a few days time he goes to the State hospital where he becomes one in a large group, possibly to his benefit, possibly to his great detriment. In any event the entire hasty procedure adds shock upon shock to the patient and his family and out of this traumatism in many cases only evil results can be expected. Mental illness is so bad in itself that separation may constitute a relief for all concerned but when this necessitates removal from town and even commitment for insanity we have added all that a mortal can well bear.

Possibly, however, this is a bit too sentimental a view of the entire matter. It might be said that the mentally disordered upon the whole are in fair physical health and clear enough to get along pretty well without any great amount of medical attention. A physician in the East has for three years now carried out a "detoxication" procedure, as he calls it, upon patients in the so-called functional group (manic-depressive, dementia praecox, infective exhaustive and the psychroneuros) and as a result claims an average discharge rate of 65 percent in this group as against 37 percent in former years. He cites statistics and illustrates his argument with a considerable number of cases of recovery following the removal of infected teeth, tonsils, colons, cervices, seminal vesicles, etc. He is full of enthusiasm which very possibly colors his interpretation of results but there is enough fire behind the smoke to strengthen the argument for a complete and painstaking physical analysis of every mental case, even of some that are apparently so frankly organic as to defy therapeutic approach; vide the case of the old men cited above and others that might be mentioned.

Operative procedures, unless emergency affairs,

cannot be undertaken in the ordinary sanitarium; in a general hospital they are readily accomplished, in fact the very ease with which they can be done may very well be a determining factor in the decision, that if wisely taken after proper study will at least remove an obstacle in the way of recovery or improvement. The State of Illinois has for some years employed a whole-time surgeon to care for its insane patients and prisoners but in dealing with twenty-five thousand individuals this treatment must necessarily be extensive rather than intensive and though much relief has been afforded no startling results in the way of recoveries have been obtained.

And then there is the nursing problem already referred to in connection with the lack of adequate help in State institutions. Adequate nursing means personal attention and, just as in ordinary medical and surgical cases, this "adequacy," depends upon the condition of the patient. In some cases it will mean a nurse on each shift, in others one nurse for two or five or even more but *always,* in the acute case during observation, physical examination and special treatment, it means the care of a *trained nurse,* not an attendant or an orderly, but a woman who has had hospital training plus a special course in mental nursing. Of this more later.

Now if all these needs and possibilities exist in the care of the mental patient, is not the general hospital, which looks to the community for its support and in return assumes the office of a public servant, obligated to open its doors ungrudgingly to this modern pariah, not only when quiet and orderly but even when excited, noisy and voilent and therefore all the more in need of medical attention? I think there can be but one answer. In fact the reply of several large hospitals in Chicago to this question indicates their entire appreciation of the situation. But it seems there are a number of lions in the road. Some have teeth and others none.

In the first place there is a most natural dread of noisy and violent behavior, which may annoy and even shock other patients to their detriment. The argument is a good one against ordinary ward care in the heart of the hospital. The mental ward must be segregated and made as sound proof as possible and have its own entrance. This means careful planning but it can be done even in an old hospital, preferably upon an upper floor and away from the pavilions housing the clientele most sensitive to noise. Thanks to constant training the ordinary Chicagoan is not unaccustomed to noise. And after all very few mental patients are noisy enough to be heard any distance away. Noisiness in acute cases usually occurs when the patient is uncomfortable for one reason or another which again resolves itself into a question of tactful nursing care and medical treatment. The same may be said of violence. Skilled and tactful personal care and attention generally solve this problem quite promptly.

Then there is a fear of accidents with their accompanying undesirable publicity, but sanitaria take this risk and how seldom do we read of their misfortunes. To be sure some risk must be taken but so far as the patients are concerned this would probably be much less than that which ordinary hospital patients run in undergoing adventurous surgery. *Publicity alone can never seriously harm a competent organization sincerely endeavoring to do good work.*

The question of lack of space, proper equipment and endowment, is a more serious one and not capable of argument here. Certainly if the need exists and there is an honest desire to satisfy this need the space can be found.

Then there are the nursing difficulties and of all the lions in the way this is perhaps the worst with which we have to contend. The average nurse reflects the opinion of the average medical man concerning mental disorder. She looks upon it as something quite outside of the ordinary nursing field, somewhat comical, rather terrifying and quite hopeless. A female patient is bad enough, a male impossible. Upon the registry she states that she will not accept mental cases and feels rather self-righteous in so doing.

This attitude is of course not the fault of the nurse but of her education. She does not know what fine people become insane, she thinks that most of them are syphilitic (in reality less than 20%) and she has never had the satisfaction of seeing a clouded mind become clear. At the Chicago State Hospital the State of Illinois has for some years conducted a school of psychiatric

nursing in connection with which affiliated courses of four months are given to the pupils of general hospital training schools. Over 115 girls have already taken this training and almost without exception they go away with a new vision of the possibilities in this field of nursing. They like the work, they lose all fear of mental disorder and in its place experience that fascination so common to those who have had experience with the practice of psychiatry. So this obstacle is after all not so insuperable as it may seem to to the average hospital superintendent and training school head. Let them send their pupil nurses to the State school and we will train them out of indifference or fear into interest and even enthusiasm.

The remaining difficulties in the way are inconsiderable. Of course the medical staff must be educated and convinced but this should not be a hard task, if they are sure that mind and matter are not separate entities.

The cost of care is naturally an important item, but those who have any financial resources will gladly make any ordinary sacrifice for the sake of an opportunity to hospitalize their patients during the "period of hope," rather than to commit them or send them to an out-of-town sanitarium. For those of very moderate means and for the destitute but hopeful cases, endowed beds should be provided. Not a great many beds of this character will be required. The great mass of mental cases will for years to come continue to tread the well-beaten path to the State hospital or to a private sanitarium.

Allowing an average individual residence of ten weeks, twenty beds would care for 100 patients yearly; and a twenty to twenty-five bed pavilion from the point of economical administration, nursing care and general upkeep is quite an admirable unit. Three such pavilions in the city of Chicago would do a great work. Still better would be the endowment of a separate institution with a complete staff of medical and surgical consultants, fully equipped with every facility for diagnosis and treatment.

Either of these measures in the writer's opinion would meet the demands of a very definite situation in Chicago today—the application of general hospital standards of care and treatment to acute mental cases.

THE ROLE OF THE PHYSICIAN AND SURGEON IN THE PROPHYLAXIS OF NEURASTHENIA IN CONVALESCENTS.*

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The successful outcome of the treatment of a case of physical disease or injury may be complicated by the unexpected appearance of functional signs and symptoms of a condition which if neglected and if uncorrected might develop later into neurasthenia. The careful medical man excludes functional disorders before operating or when making his original diagnosis and outlining treatment, consequently he is surprised if not baffled at the insidious manifestations of neurotic involvement. No one of us wants one of our cases which has received good technical care to remain a partial invalid, for such a disaster piques our profesional pride, weakens our self confidence by perplexing us, and hurts our reputation. A great many cases of potential neurasthenia among convalescents may be aborted by suitable prophylaxis based on an understanding of the controllable etiological factors and by early corrective treatment.

It is necessary for us to realize the natural mental and emotional limitations of our patients when they are well and the greater limitations when they are sick. These limitations vary in individual patients. It is also necessary to see that the patients properly exercise their minds within their changing limitations as there are variations in the course of their illness and convalescence. In other words, the attending physician must take as much cognizance of and assume as much control of the mental hygiene of the patient as he does of the gastrointestinal hygiene, for example. There are very few persons even when in excellent health who are able for any great length of time, say twenty or thirty minutes, if alone and without the aid of pencil and paper to think continuously and constructively on a single subject. Application and relaxation in thinking purposefully controlled is rare. Use and exercise of the emotions within reasonable range is as seldom found as is appreciation of contentment or as the limiting of one's ambitions to what is practical of attain-

*Read before the Aux Plaines Branch of the Chicago Medical Society at Oak Park, March 22, 1922.

ment. On the contrary there is usually found in the average person an inability to concentrate and maintain the attention, sporadic thinking, vague, dim, dreamy or unclear thinking at times, emotional inhibitions, restlessness, and extravagant ambitions. "If I were only well and strong —," "if there is no horrid looking scar remaining—," "if I will look better after this is all over —," "if things will only work out (my way or to my advantage—," and similar longings are deleterious because they cause dissatisfaction. The conflicts between the reluctance to accept realities as they actually are and one's desires are almost as disastrous to the individual as emotional conflicts with one's self. Average persons are not trained to think. Mental discipline is a phase of mental hygiene not universally practiced. People with surplus time and no occupation indulge in excessive undisciplined thinking. Day dreaming or phantasy formation are bad habits, when rearoused and indulged in excessively; their deleterious effect can hardly be over estimated.

The sick and convalescent not only have unlimited time for thinking but are unduly concerned about themselves. Like children their body is their main interest. They like to talk about themselves and the characteristics of their ailments. As they become self centered they grow indifferent toward their former interests and toward their environment except that they become petulant when the environment is not in accord with their whims or desires. Their attitude of complaining plus their realization of their helplessness and impotence make them irritable. As a rule the mood of the sick is somewhat depressed or saddened. "You have no idea how much I suffer," or "no one cares how much I suffered." Occasionally they substitute for their self-sympathy or self-pity a pitying sympathy for others who are afflicted. We notice this in the often morbid interest of hospitalized patients in the management of hospital details and in adjacent patients. The patient's heredity determines the rebound of mood, other things being equal.

After infections, exhaustion including after hemorrhage, toxic states and after a period of unusual strain or conflict there results a condition of increased fatigability. For example, there was a marked increase in the incidence of neurasthenia after the recent influenza epidemics with the pronounced exhaustions and toxemias and protracted convalescences. Among the reasons why neurasthenia is not more common may be listed the keen insight of the attending physician or surgeon, sensible nursing care, and the interest of the family and friends of the patient as shown by the lightening of overwhelming burdens.

It is very difficult for the medical man to detect the beginning signs and symptoms of neurasthenia because the patient deliberately tries to make a good appearance whenever the doctor visits the bedside. The surgeon is more handicapped if he sees the patient for the first time after hospitalization than the physician who knows the patient in her home environment. If a provisional diagnosis of intercurrent neurasthenia is considered then a thorough neuropsychiatric examination is indicated. As soon as neurasthenia is diagnosed proper treatment should be instituted. Because of the patient's accustomed dependent and obedient attitude toward the physician or surgeon of the patient's first choice it is often the case that the attending man can apply psychotherapy under advice better than can the consultant psychiatrist.

When it is realized that the vicious spiral of the etiology of neurasthenia is that the patient (a) has too much time to think, (b) is unaccustomed to disciplined thinking (c) thinks too much about herself, her body, her illness, (d) has increased fatiguability, (e) shows alteration of mood usually being depressed or irritable, and (f) so keenly wishes for good health and strength with its infinate possibilities that her wishes lead to a riot of phantasying in the idealistic dream world of unreality; then in the prophylaxis naturally the points of attack are (a) allowing the patient less time for thinking by assigning various forms of occupation to fill her waking hours, (b) inaugurating self disciplined thinking by explanations and by exercises (c) denying the patient gratification of her desire to know all about her pathology even though the rules of practice building tell us that the best way to make a former patient become a patient-getter is to magnify and explain to her her own signs and symptoms, (d) affording the opportunity for frequent periods of mental rest, (e) having the nurse remove causes of irritation and have the family and friends bring cheer and comfort, and (f)

assuring the patient that the less interest she takes in her sickness, the more interest she maintains in the things which normally interest her and the fewer doubts and fears she has, the sooner she will be enabled to resume her natural place in the family and in society.

The prevention of emotional excursions and conflicts is really the most important factor in prophylaxis. The most tangible factor is occupation and is worthy of a brief consideration. Entertaining amusements may be used as graduated exercises in camouflages. The card game of double Canfield, first one move at a time alternating between the patient and the nurse but gradually making as many moves as possible in alternation and later becoming sporting by each making as many moves as possible and the same time in hurried competition is an excellent way to occupy a few minutes once or twice a day. Reading a part of a short story in some book not heavy to hold, reading fifteen minutes at a time from the daily newspaper, and reading only one letter at a time after the mail is distributed are ways to build up concentration of attention. The nurse should insist that the patient answer her mail daily even if with lead pencil and postcard: discriminate carefully between asthenia and neurasthenia. Chronic patients should be encouraged to go to movies, entertainments and church services. Some manual work should be insisted upon, sewing, weaving, toy making, etc., for periods of time of increasing length, because unselfish constructive work is both interesting and satisfying and the patient notices what she can do instead of morbidly contemplating what she cannot do. Realization of total incompetancy and the futility of any self expresion makes a person irritable. Occupational therapy as applied in some hospitals even where the details as well as the planning are done by an employed occupational therapist is now only about one-half of one percent of what might be done under ideal circumstances wlfere the medical and nursing staffs understand its value and its potentialities so well that they are most co-operative. Habits of work and continuity of effort are more important for the idle sick than for the healthy and strong. The patient should maintain a healthy mental contact with the world even though the body of the patient is sick. Much planning and the burdening of the memory should be relieved by jotting memoranda on a suitable "reminder" kept conveniently at hand if we wish to prevent the anxiety, restlessness and the troubled dreams which ensue from carrying ideas of incompleteness.

The fundamental prophylaxis is for the physician or surgeon to prohibit and absolutely interdict day-dreaming or phantasy formation—a too pleasant and too easy escape and refuge from the physical pain and mental dissatisfaction resultant upon being sick or convalescent because the fee for emotional conflict and self interest endures in the form of debilitating vivid memories much longer than the doctor's bill remains unpaid. Psychotherapy, training in mental discipline, augmented by occupation under supervision are the constructive means of prophylaxis. Thus may chronic, mild or severe, mental-emotional invalidism be prevented so that when the patient is discharged as recovered she is not afflicted with lingering sequellae of her illness or disease necessitating subsequent treatment by a neuropsychiatrist. Since the etiology is different in the well recognized type of traumatic neurasthenia and the insidious neurasthenia of convalescents, although the signs and symptoms in marked cases are much alike, the prophylaxis of cases developing while under medical care is a problem the physician and surgeon must be prepared to solve by the best means available.

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VERTIGO, AND ITS SIGNIFICANCE AS A SYMPTOM*

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By vertigo is meant a subjective sensation of a disturbed relationship of one's own body to the surrounding objects in space.

Any discussion of vertigo must necessarily lead to a discussion of the ear, and especially the labyrinth, which is the end organ of the vestibular portion of the ear.

Science tells us, that in the development of the ear the auditory function was the last to be acquired, and that our aquatic ancestors possessed only the vestibular portion. While in thinking of the auditory nerve we are inclined

*Read before Wabash Valley Medical Society, at Danville, June 1, 1922.

to think only of the function of hearing, we are in doing this neglecting the most important function of the ear.

It has only been in recent years that the intimate connection of the vestibular portion of the internal ear with the entire human economy, has been appreciated.

We have for many years associated dizziness in some mysterious way with the function of the internal ear, but it is only in the past few years that the function of the vestibular portion of the labyrinth has been carefully studied.

Robert Barany was the pioneer in this line of work. He has proven conclusively that the vestibular portion of the internal ear is intimately connected, through the nervous system, with the musculature of the entire body.

He has systematized this work and given us the so-called Barany's tests, which enable us to acquire valuable information, not only about the internal ear, but the intracranial pathways and nervous system. There is no portion of the body musculature that is unaffected by the stimulation of the labyrinth. He has proven that the kinetic static labyrinth is the organ of equilibration, and that when this function is interfered with, we get vertigo.

Dizziness, or vertigo, always results when there is a contradiction between the nervous impulses from the semicircular canals, and the position of the body as indicated by the other sense organs.

Vertigo occurs particularly in affections of the labyrinth which paralyze or irritate the end organs in the semicircular canals, and thus lead to a pathologic distribution of the exciting influence and a consequent faulty perception in reference to the position of the body.

It will readily be seen from the foregoing statements that the subject of vertigo, from whatever cause, is really an ear study.

While considering all vertigo as an ear disturbance, it must not be considered that vertigo can be caused only by a disturbance within the ear itself. It is well known that certain visual disturbances, cardio-vascular affections, gastric or alimentary disorders, also manifest vertigo as a symptom.

The essential feature is that it is a direct action on the internal ears or their associated pathways in the brain that is responsible for the vertigo. It is only when the alcohol reaches the internal ear that the drunk man develops incoordination.

Perfect equilibration is accomplished through the harmonius action of three nerve tracts.

1. Vestibulo-ocular.
2. Vestibulo-spinal.
3. Vestibulo-cerebellar.

Of these, the first is of least importance in the maintenance of equilibrium. Complete loss of function of this tract does not produce vertigo. It is only a false sensation received through this tract, which fails to correspond with the sensations received from the other two that causes vertigo.

If the vestibulo-spinal tract fails to functionate, the patient usually is able after a short time to compensate for the loss and maintains equilibrium with the other two. But never with one.

This explains the Rhomberg Sign. The tabetic having lost the use of the vestibulo-spinal tract, maintains his equilibrium with the other two, but when he closes his eyes he is unable to do so. Hence the tabetic patient falls when he closes his eyes and is very unsteady in the dark. The tabetic who is also blind cannot stand alone. Neither can he determine the position of his legs or arms on account of this loss of his muscle sense.

As vertigo is a subjective symptom, it is of infinite importance that we go thoroughly into the history of each case. Some patients will complain of this symptom when careful history analysis will show that the affection is not a real vertigo. We are frequently rewarded with information that amounts practically to a diagnosis after getting a good history.

The vertigo that is continuous for two or three weeks and then disappears is most likely due to a labyrinth lesion, as in these cases compensation is established in about three weeks.

If the vertigo is transient and extends over several months, we must think of toxemia, especially if we can exclude the circulatory system.

If the vertigo is continuous and lasts for sev-

eral months, we have a condition that is very suggestive of a cranial lesion.

We may, therefore, for convenience of study follow Jones' classification, which is:

1. Ocular vertigo.
2. Cardio-vascular vertigo.
3. Toxic vertigo.
4. Lesions of the ear itself—labyrinth.
5. Cranial vertigo—intracranial pathways.

From the standpoint of the eye the subject is comparatively limited.

Vertigo associated with paralysis of the ocular muscles is evidently due to a false projection of retinal images, as a result of which disturbances of space orientation might naturally give rise to vertigo.

It is really the conflicting sense perception obtained through the eye and the kinetic static labyrinth that produces the vertigo.

Probably the most important in this class is paralysis of the extra-ocular muscles.

If an individual acquires diplopia and becomes dizzy only when attempting vision in the right visual field, we know that the right sixth nerve is involved.

The question arises as to what extent this nerve is involved, as that has some bearing on the prognosis.

As the ear stimulation is always stronger than the voluntary cerebral stimulation, we are able by the ear stimulation to determine, more accurately, the degree of involvement of the nerve. The horizontal semicircular canal is connected by nerve paths with the sixth nerve nucleus and with that portion of the third which controls the internal rectus.

By using cold water in the right ear, head back 60 degrees, we are able to determine the degree of paralysis.

The patient with a paralysis of the right external rectus has no vertigo or diplopia on looking to the left field, but on looking to the right, that is in the sphere of action of the paralyzed muscle, the right eye lags behind; this causes an apparently rapid movement to the right of all objects seen with the right eye. The whole world, to this patient, is moving rapidly to the right.

If the patient closes the right eye, or keeps the head rotated to the right, and the eyes rotated to the left, his vertigo and diplopia disappear. This is a characteristic attitude of these patients.

If the patient only has vertigo when going down stairs, the probability is, he has paralysis of the fourth nerve. The high hypermetrope has dizziness when he first puts on glasses. This is due to false localization of objects, which results from the prismatic effect of the glasses. This is corrected by having the patient turn his head instead of the eyes, so that he always looks through the optical center of the lens.

Cardio-vascular Vertigo. In this class we may have any of the cardio-vascular conditions which produce either an ischemia or congestion within the cranium. If an aterio-sclerosis with high blood pressure we have to deal with a congestion which may produce vertigo by interference with the labyrinth or any of the ear tracts between the labyrinth and the cerebrum. In shock the vertigo is due to the ischemia of the labyrinth or any portion of the cranium.

Toxic Vertigo. In this class we have probably the most frequent and most varied sources of vertigo. In fact a toxin from any portion of the body may be responsible for vertigo; sometimes by irritation, at other times by depressing the labyrinth. Most of the vertigos due to toxins are evanescent. In this class, without doubt, the most frequent and most popular is alcohol. In this case the patient, on account of the cerebral depression, is not distressed by his vertigo. If someone will produce an alcoholic drink that will affect only the labyrinth and cerebellum, and not the cerebrum, the millenium for the prohibitionist will be here. Others in this group are ptomaine poisoning, lead, quinine, salicylates, nephritis, gout and rheumatism. Also focal infection from any source, as teeth, tonsils, nasal accessory sinuses, gastro-intestinal and gall bladder disturbances.

Probably most of these do not produce any permanent effects on the labyrinth and cochlea, but there is no doubt that a few cases of the milder forms if continued over a period of

years, do permanently affect both the labyrinth and cohclea.

The toxins which produce a rapid and definite pathologic change in the ear (labyrinth) are syphilis and mumps. Also less frequently toxemias from the gastro-intestinal tract and those due to focal infection, namely sinuses and teeth.

Lesions of the Ear Itself. Any inflammatory condition of the ear causing vertigo should have the immediate and careful attention of the aurist. These affections may vary from an impacted cerumen to a suppurative labyrinthitis. Fortunately the latter condition is rare, as the effect of the toxins is usually sufficient to bring on irritation of the labyrinth before the actual suppurative process has reached it.

Lesions within the Brain. Here the lesion causes vertigo by affecting the intracranial pathways from the ear. In this class are tumors, thrombosis, hemorrhage, infarct, abscess, gumma, tubercle, multiple sclerosis, polioencephalitis and syringomyelia.

In summing up these few remarks I wish to leave the thought that the Barany tests will prove of distinct value in clearing up the diagnosis of many of these obscure cases of vertigo. If the ear tests show abnormal responses, they will also show whether the lesion is within the ear or within the brain.

If the responses are normal we have narrowed the diagnosis down to:

1. A functional neurosis.
2. An ocular disturbance.
3. An evanescent toxemia.

The ocular disturbance is readily recognized. As to the differential diagnosis between a functional neurosis and an evanescent toxemia we are confronted with a problem that will often take some time for solution, but if the Barany tests show normal responses we can feel perfectly safe in spending all the time necessary in making a diagnosis. We are not justified in making a diagnosis of functional neurosis until we have eliminated the possibility of a cardio-vascular disease and toxemia in any form. In investigating toxemia we must consider dietetic errors which are occasionally responsible for transient vertigo.

Citizens Trust Building.

PSYCHOLOGICAL FADS*[1]

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Fashion designers tell us that we are completing a cycle of years which has carried us back, in approximation, to the fashions and styles which were in vogue during the lives of our grandparents. A fashion makes its advent, catches the popular approval for a moment, as quickly comes into disfavor and is abandoned only to appear again after a period of years in a slightly modified form. Those who are enthusiastic about the fad or fashion after it has been reborn are usually not concerned about its past history, cannot be led to be interested in its relation to primitive times, and would deign to see the novelty removed by being convinced that it has contributed little beyond its mission to a previous generation.

At the present time we have a movement on foot in this country and throughout the world which is termed the "New Thought" movement, a type of philosophy which endeavors to explain and interpret many things. The mis application of the term, however, will not deceive those who look into the history of the principles which proponents of the system represent. The so-called "new thought," "new" or "applied" psychology is hoary with age. The philosophy underlying it was not new when Saul of Biblical times consulted the Witch of Endor for the purpose of receiving advice from the spirit of his departed counsellor and friend, Samuel. It was not new when the warrior of ancient Greece faithfully made his pilgrimage to Delphi with the hope of ascertaining the pleasure of the gods, and to divine his chances for victory in the impending conflict. It was not new when the primitive "medicine man" sought by means of wierd incantations to relieve the sufferings of his patient. It was not new when the unfortunate mediaeval accused, blindfolded, was required to walk down a row of hot plowshares unscathed, to be vindicated by public opinion. It was not new when the man who dared to express his independent

*Read before the Peoria City Medical Society, June 16, 1922.

1. For a large portion of the rather general and cursory treatment herewith presented the writer claims little originality. It is in the main a rough synthesis of the writer's interpretation of prevailing psychological opinion, on the items treated, of the sounder type. For any point of view advanced, however, full responsibility is assumed.

views concerning religion was publicly burned at the stake as a heretic by the established church. It was not new when in 1850 an alchemist offered to enter into contract with the French Government to make gold for the French mint. It was not new when an outstanding Dutch anatomist and professor of medicine in the last half of the eighteenth century took the facial angle as a criterion for judging intelligence. From the earliest period which history records to the present time the mystical desire to follow prophetic vision, to inquire into the mysterious, and to consider man a pawn to be moved about here and there by fate on life's checker-board, has been supreme in the lives of many people. These hobbies or fads have moved in cycles, periodically returning to take root in the hysteria of abnormal periods and to be nurtured by the credulity of new generations.

Our period of readaptation following the World War, with its unsettled conditions, its industrial unrest, and its general dissatisfaction with the present social and moral order furnishes rich soil for the cultivation of pseudo-psychological fads and fashions. We have experts on "real success," "business" and "professional analysts," "character analysts," "spirit" or "soul analysts," —those who claim to explain for us with little time and difficulty the mysteries of our personalities, and for a certain "fee" put us in harmony with the universe.

The tendencies which have been mentioned have taken varied forms during the several epochs of history. During earlier periods such tendencies expressed themselves largely through mystical channels, when there was crude effort made to use concrete things as symbols in thinking. Theory and faith were quite sufficient to give the true mystic a criterion for conduct; concrete evidences upon which to base belief being necessary only as tangible symbols representing fancied principles or personalities. Later periods witnessed crude but more systematic attempts to connect intangible theories concerning man and his present and supernatural destiny with tangible things. The differences between certain mystical and occult practices which survive in our present period, and which seem to be flourishing just now, and those practices and beliefs of previous times is that at present more energetic but feeble efforts are made to justify the mystic theories on the grounds of science. In such efforts our present pseudo-scientists would cause our ancient and real mystics to blush with shame were it possible for them to see their work so degenerated and perverted.

One of the oldest types of philosophy which is thought of as in any way approaching a science, and which falls within the scope of the present subject, is known as "Physiognomy." This term is Greek in origin, and means "judgment by bodily appearance." Basis for such belief was found in the common and simple fact that certain of the emotions such as joy, anger, fear and curiosity make their expression on the countenance, and that by observation one can usually tell the gross nature of the emotional disturbance resulting from a period of stress. This, of course, is and always has been true. Before many years had passed, owing to the work of many who because of ignorance or for the purpose of gain and distinction are ever willing to take a simple truth and distort and pervert it, the system included an attempt to draw fine distinctions with respect to differences in intellectual capacities and emotional qualities, basing such distinctions on facial and cranial characteristics such as convexity and concavity of facial profile, shape of chin, or "type" of nose. Kant, an European philosopher of the latter half of the eighteenth century, was the last of the principal scholars to place a great deal of emphasis on physiognomy. It has remained for so-called scientists of our present era to dress the antique system of thought in new clothing, to embellish it to a point never dreamed of by those who inaugurated it, and designate it by a modern and dignified name which is popular with the unsuspecting. "Character analysis" is the modern term used for this ancient system of thought.

The most characteristic innovations in the so-called systems of character analysis of the present time arise out of the liberty of any proponent of the doctrine to introduce anything which suits his fancy and which at the same time proves to be entertaining to the credulous audience. People are classified according to angularity of profile, texture and color of skin, color of hair, type of general physique, such as relation of height to weight, etc., extent of adipose or bone tissue, and *ad infinitum*. There are a limited number of business men who are more anxious to inquire as

to whether an applicant for the position of stenographer or private secretary (and not on aesthetic grounds, either) is a blonde or brunette, than to try to ascertain the thoroughness of her education, or her attitude toward work. It is the belief on the part of many that the most successful executive is he who conforms more nearly to a "type," one of the most important qualities of which is mere ability to pull down the scales. Propagandists in endeavoring to justify such doctrines from the standpoint of science point to certain examples in verification of their hypotheses, and in so doing profane the very name of science. If mere proof consists of citing examples to justify each theory which has been advanced, then there is no reason why every theory advanced in all history could not have been amply justified, nor would it be inconsistent to assume that no theory which might be put forward in the future will go undemonstrated. Isolated examples can be cited to prove anything, and so long as we permit so-called scientists to select their own examples, that long shall be have our scientific conceptions resting on fallacy rather than on fact.

Studies indicate that where samples representing executives in general are taken, such samples are made up of representatives of all of the so-called "types" of the "character-analysts"; that men with broad chins and men with receding chins, bony individuals and adipose individuals, tall individuals and short individuals are granted a common degree of respect as they discuss big business plans across the same banquet table. Similar study shows that successful stenographers will be made up of blondes and brunettes, the percentages varying somewhat according to the preponderance of the respective "types" in the unit of population. In Jewish communities, for example, the larger percentage will be in favor of the brunette; in communities where Danes and Norwegians predominate, blondes will predominate. That there are emotional differences among races is plain. That such emotional differences may be observed as definitely as differences in complexion and other physical characteristics among individuals is not denied. That such emotional conditions can be definitely correlated with character qualities, however, is yet to be established. The only fair way to test any theory which is presumed to justify a certain standard or criterion is to take a fair sampling of all individuals who are performing the particular task involved with varying degrees of success, and determine the extent of positive correlation between any physical characteristic of the worker with the corresponding characteristic set forth in the proposed standard or basis for comparison. Such correlations as have been determined thus far indicate that the degree of correspondence, if present at all, is so slightly positive that it is negligible. The foregoing brand of "character analysis" is, therefore, a fad rather than a scientific truth; the basis for it seems to exist in fancy rather than in fact.

A fad which was somewhat later in its development than physiognomy, but which represents, in the main, a similar type of speculation is known as phrenology. The shape of the head was held to be extremely important in the determination of "types." Bumps and depressions meant possession of certain qualities in great and small proportions. Phrenologists seem to have found a profitable business in the charting of heads for which a fee varying from fifty cents to five dollars was charged. Advancement of prices by the successors of the physiognomists and phrenologists indicate that in one respect, at least, they are quite up-to-date.

A paragraph taken from the work of a more recent writer on the subject is as follows: "No one of any fair degree of observation on being shown portraits of the philosopher, Emerson, the prize fighter, John L. Sullivan, and the capitalist, Andrew Carnegie, could fail to decide at once which was which. Prize-fighters have big, thick, strong heads. Unselfish philosophers have small back heads, but very high heads; while accommodating business men have broad faces, and usually heads long from front to rear rather than long in height." One wonders, after reading this statement, how the author failed to see so many potential prize-fighters in the pulpit, so many misguided youths capable of higher things aspiring to pugilistic honors, and why in the business world could be found "giants" who by their physical characteristics could have succeeded far better in some other field. One wonders why Daniel Webster was not a prize-fighter, and why Theodore Roosevelt enjoyed boxing as thoroughly as he enjoyed the fighting of his intellectual battles. The attention of those who may think phrenology dead is called to the recent statement of a lecturer who visited our city a

few months ago, that it was not phrenology he practiced, but scientific brain anatomy."

Both hysiognomy and phrenology grew out of the ancient mystical desire to divine the future. The systems endeavored to find justification on the hypothetical assumption of certain parallels of relationships between physiological and mental activities. The science of psychology has never been able to establish any other than gross relationships between the nervous system and mental processes. We know that when certain cranial areas are injured or destroyed that certain bodily functions are interfered with, and perhaps certain members of the body paralyzed. A multitude of mental processes, the nature of which we understand slightly if at all, are served by the bodily tissues in emotional expression. When the central nervous system is rendered inactive through the administration of anaesthetics, so far as we are able to ascertain, all conscious processes cease. On the basis of these gross observations we form many hypotheses. We assume certain subtleties in connection with the phenomena of behavior as traceable to certain stages of nervous development or decay, to nervous conditions and activities. While laboratory experimentation has justified many of these theories, still we should not overlook the danger which is likely to accrue in disregarding the hypothetical nature of many of our basic assumptions. Certainly we should not permit pseudo-scientists to advance highly imaginative theories and justify them on the basis of a fancied relationship between the physiological and the mental.

A great deal is being said today concerning the supposed transference of thought from one mind to another by means of some agency or force which we do not understand. This theory is commonly known as telepathy. Popular speakers on the subject do not hesitate to glibly refer to the "law of telepathy." Various examples are cited as illustrations of the working of the "law" by people who are honestly convinced that it has merit. No scientist would be so arbitrary as to say that there could be no such thing as telepathy. The contention of science is that the theory has not had a sufficient number of positive illustrations under controlled conditions to justify its claim to "principle" or "law." When we think of a natural law, we think of something which will work in an observable way under definite conditions giving positive results. Without taking the ground, therefore, that there can be no such phenomenon as telepathy, it is easy to explain certain experiences which seem strange and which are often explained on the basis of telepathy because no tangible cause for such experiences are observed, on other grounds than those of thought transference.

We have all marveled when two individuals think of the same thing at the same moment, not considering the fact that at the same moment the two or more individuals are surrounded by the same suggestive influences, and that stimuli to the senses of both are similarly received. While there are many individual differences with respect to natural endowment, differences resulting from variation in training and environmental circumstances, still as members of similar groups we react in the larger sense in a universal way. Thinking of this natural situation we could just as reasonably marvel at the infrequency of such coincidences as to be puzzled at the occasional one. Another type of example is frequently submitted as evidence of a "law" of telepathy. In a case of illness or of mental distress it is ascertained that at a certain moment when one individual is thinking of some definite phase of the disturbance, another friend or member of the family, even though many hundred or many thousand miles away, is thinking of the same thing. If such conditions were investigated thoroughly, it would doubtless be found that the different individuals have a common basis for appreciating the disturbance, perhaps through correspondence, telegram, long-distant telephone conversation, or by other media. Both being in similar emotional attitudes, is it at all remarkable that at occasional instances the two should think of the same thing at approximately the same time? I have never seen the citation of an incident in which stop-watches or other exact instruments of measurement were used in determining that such experiences occurred at exactly the same instant. In most of these considerations, too, we have altogether neglected the element of chance. People who have a common understanding about things will have thousands of similar thought experiences. According to the law of chance which is just as definite as the law of gravitation, certain of these thought experiences will occur instantaneously in the minds of different individuals. Telepathy is a fad in that thus far it has in no way been demonstrated

under controlled conditions, or other conditions which would seem to in any way justify it, and at the same time enters into popular thought to a considerable degree.

Another movement at the present time which is at the point of becoming a fad with many is the mental testing movement. A sane administration and use of sound psychological tests should arouse enthusiasm on the part of those who are interested in the study of personnel. Tests were used to good advantage in the United States Army in preparation for the late World War. They are being used to excellent advantage in the analysis of special abilities and disabilities of children in our public schools. They are being used in the work of vocational and educational guidance in our higher institutions of learning. We use such tests to good advantage at Bradley Institute. Parallel with the more conservative and critical administration and use of psychological tests is being developed a mania for testing which presumes to measure capacity for learning without having a clearly defined and definite criterion to follow in such measuring; to develop technique without first clearly analyzing the problem. Many of our sane and constructive psychologists are concerned over the possibility of this element so entering the philosophy of the testing movement as to determine the individual's intelligence quotient, with a degree of fatalism which would unjustly deny him certain opportunities in the more respectable fields. When we arrive at a place where intelligence can be as definitely measured as physical materials, then such attitude on the part of the mental tester will be sound, provided he thoroughly understands his field and has the proper human attitude. So long as intelligence baffles measurement, even in a small minority of cases, the tester cannot with safety assume a degree of fatalism which is possessed by some who are in the field today. Psychological or mental tests are making, and will continue to make, a permanent contribution to the cause of scientific education, progressive industry, and business. The most effective contribution will be made, however, after the mania for testing has spent itself. Those who at the present time are contributing to the sane side of the testing movement will stand supreme only after it is impossible for the pseudo-testers to confuse the issue.

One of the more recent intrusions into the psychological field is the innovation known as Psycho-Analysis. The system consists of theories and doctrines which in the main rest upon the philosophy of Freud, an Austrian psychologist of our present period. It is the contention of Freud and his school of followers that the suppression of natural interests and instincts which begin to function early in childhood leads to conditions which account for various forms of mental maladjustment. Instincts, being anti-social, must not conflict with the ideals which the social group sets up. Education from its earliest beginnings involves certain definite degrees of restraint. Such inhibition and suppression result in a series of so-called "mental complexes."

A mental complex, technically defined is "an outstanding idea that dominates in the realm of the unconscious, and around which is grouped a phalanx of primitive, suppressed emotions. Such complexes invariably assert themselves in dreams, and form the underlying mechanism of a neuroses." These complexes, according to Freud, are apt ultimately to result in various forms and degrees of hysteria and other types of insanity, as well as a multitude of minor mental disorders. It is the further contention of Freud that most of these undesirable complexes result from the suppression of the sex instinct. An example, the most devastating of the complexes, as stated by a psycho-analyst, follows: "The Oedipus-complex originates in early childhood and consists of an over-attachment of a son to his mother. This is accompanied by a feeling of jealousy toward the father whose claim upon the mother's affections is opposed by the young rival." The mythical term selected by Freud in designating this complex as stated by one of his followers,[2] will further suggest its meaning. King Oedipus Rex, of Sophocles, was led by fate to kill his father and win his mother, Jocasta, for a wife. Hence the selection of the term to designate the attributed sexual feeling of the young son toward his mother. This term is also extended to include a similar feeling of a youthful daughter toward her father. It is Freud's view that this complex leads to many youthful and adult sexual inversions. Such complexes are traced as the cause of many adult practices the significance of which individuals involved do not understand.

The following quotation is taken from the re-

2. William J. Fielding, "Psycho-Analysis."

cent work of a present author on Psycho-Analysis: "According to this theory the curiosity which makes a man a scientist—let us say a microscopist—is traced to the early curiosity in looking-peeping, which has its object in seeing forbidden sexual objects or acts." If we take this statement as significant, then we shall have to think of Pasteur and Michaelson and other scientists on the one hand, and the "peeping-Tom" on the other as manifesting varying degrees of the same sub-conscious motive in following activities which give them pleasure. A second quotation from the same author: "We do many things in our waking hours of a symbolical nature, which satisfy our unconscious, without consciously understanding their real significance. For instance, we throw rice and old shoes at newlyweds without comprehending the true meaning of the act. Consciously we are following an old established custom; but unconsciously we are doing something more important. We are giving expression in a symbolical way to a wish that is quite appropriate for the occasion, and which our standard of ethics would not permit us to express in a more direct way." The writer here means the sexual phase of the new relationship.

While Freud recognizes the symbolical nature of many of our activities during waking hours, still it is his claim that the dream is the chief means whereby the unconscious may be penetrated. The dream is the expression of unfulfilled wish or suppressed desire. Restraining factors not operating, we express our real selves more truly in our dreams. The observed facts that many dreams are a jumble of images which as a whole seem to have no particular meaning is met by the counter-proposal of dream symbolism. When explained in terms of such symbolism an otherwise chaotic and disconnected dream takes on the deepest significance. Analysis of dreams and other mental processes gives the psycho-analyst basis for his diagnosis. The most elaborate claims are made for such diagnosis and practice, typical of which is presented in the following excerpt. "Psycho-Analysis brings to the sufferer from psychic hurts and soul wounds his first opportunity for scientific diagnosis and curative treatment, and renders to him a similiar service that surgery does to the physical body."

These several illustrations have been offered to indicate the length to which psycho-analysts go in the elaborateness of their claims. Evolution of these theories may be made, it would seem, in fewer words. That certain forms of hysteria, shell shock and insanity, result from mental disturbances some of which have their basis in the inhibition of natural and instinctive forms of expression, will, it would seem, go unquestioned. The claim that such mental states can be easily diagnosed and treated, however, we should hesitate to accept in the light of our present experience. Necessity for using symbolism which is presumed to be the language of the unconscious or subconscious, that large field of mental activities which is professedly but slightly understood, in explaining conscious effects seems a paradox, particularly when such explanation is supported mainly by theory of the most unusual sort. The claim that repression of the sex instinct forms a basis for most of our subconscious processes revealed in the dream, and indirectly in other ways, seems to have little to support it as a generalization, notwithstanding the tremendous importance of the sex instinct in common human experience. Psycho-analysts take little time to deal with the common and natural observation that a large part of one's dream experiences seems to be a sort of random and disconnected continuance of his associations and experiences of the waking period shortly previous. The order in which repressed instincts would assert themselves through the media of mental complexes, it would seem more rational to argue, would most probably correspond to the extent to which such instincts assert themselves in waking consciousness, since, so far as we know, the subconscious mind is pretty largely a by-product of previous conscious activities. Concerning the possibilities of analysis of this automatic and intangible field of mental phenomena commonly referred to as the "subconscious mind," the science of psychology should hold an altruistic view. In the presence of unique theories which grow out of no very systematic investigation or practice, however, psychology should assume the role of the "doubting Thomas." The work of the psycho-analysts has been and will continue to be most stimulating; it will doubtless have performed a useful service in beckoning us into new fields.

There are many other psychological fads which cannot here be discussed owing to limitation of

space. The claim that genius can be developed irrespective of one's inherited capacity is contrary to physiological and biological law. The claim that the individual can attain to any height of which he is capable of dreaming, irrespective of mental handicaps, is vicious in the extreme. It allures many to the "end of the rainbow," the "Utopia" which does not exist. The assumption that there is a subconscious mind which is an endowment at birth, that is independent of our experience and environmental circumstances and conditions, and which can correct the impressions of a score or more of years in a very brief period of time and with very little activity, is derogatory to the cause of our constructive educational, social, and moral order. Theosophy, astrology, spiritualism, and many other "cults," —ancient, mediaeval, and occult survivals which seem incongruous in our present period, are still with us, parading in polite circles under masks which camouflage but feebly.

The degree of pessimism with which we are wont to view the general credulity of humankind is hardly justified, as we see, when the characteristic is traced to its source. Our eternal tendency to indulge our fancy in following the lure of the mystical and mysterious is not in itself to be deplored. We are all credulous, more or less, depending upon our degree of understanding of the circumstance or activity which invites our attention at times when we are in a playful or fanciful mood. The same longing which calls forth an audience to hear the presentation of a subject such as "telepathy," "character analysis," or "spiritualism," is the same as that which makes the ghost scene in "Hamlet" the most appreciated scene in this play for many people; the same as that which initiates a constant stream of record-breaking patronage to the presentation of such a play as "The Bat," a production which has little real literary merit but which makes itself irresistible through its rapid series of mysterious situations. A goodly portion of that clientele which pays little attention to the announcement of the scientific discovery of a cure for some baffling disease flocks to the temporary quarters of the self-announced expert who claims to possess some unique formula or faith cure, and who after a brief period goes on his way as mysteriously as he came. The fanciful is not satisfied by the commonplace. The laboratory discovery, having little romance about it, does not harmonize with the fanciful mood. The tendency to ever look forward, even though such inclination may have as its foundation little more than the elusive day dream is the token of progress. At playful moments the imagination through the trial and success method lays the foundations for many of the permanent structures of the future. To confuse such mental activity with scientific thinking, however, is as unjust to fancy as it is to science.

The writer has taken a degree of pleasure in treating negatively the items here presented, only in that such a negative treatment seemed necessary. To have dealt with positive factors which are enabling the science of psychology to look hopefully toward the future with a degree of assurance peculiar only to our period, would have given a greater degree of personal pleasure. As a word of explanation it should perhaps be added that the lot has to be cleared before the new house can be erected; that the case of the sick patient must be diagnosed before suitable remedies can be prescribed. In analyzing our ever present and obvious case of psychological hysteria an effort has been made to briefly take into consideration some of the grosser symptoms. If the diagnosis herewith presented seems to be superficial, your attention is called to the grave series of complications that baffle the fine and critical technique of expert diagnosticians. It is hoped that by virtue of the complex situation involved, the mind of the critical auditor may be moved with a degree of tolerance as he evaluates the purposes of the paper.

It is not the province of science to look forward to the time when there will be no pseudo-scientists and quacks. It is the duty and obligation of science, however, to endeavor so to direct and wield constructive public opinion as to make confusion and misinterpretation impossible. There could be no more fitting close than a statement in his own words of the timely warning given by one of our constructive authorities:[3]

"It is particularly the obligation of the torch-bearers of science to illuminate the path of progress, and to transmit the light to their successors with undiminished power and brilliancy; the flame must burn both as a beacon-light to guide the wayfarer along the highways of advance and as a warning against the will-o'-the-wisps that shine seductively in the by-ways."

3. Dr. Joseph Jostrow, "Fact and Fable in Psychology."

THERMAL EYE TREATMENT

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To start out with certain fundamental premises may perhaps make my theme clearer.

A Simple Chemico-Physical Illustration. In the process of oxidation or other similar chemical reaction, heat is set free. This holds true in the case of a log, whether the log be set on fire and consumed in a few hours, or whether the oxidation take place through the much slower process of decay lasting over a period of years. The amount of heat set free in both cases is necessarily the same, and that it is very considerable everyone knows who has ever had the experience of being in close proximity to a log fire. In the case of a log decaying, however, the process of oxidation being spread over so long a period, the amount of heat generated and liberated at any one time becomes imperceptible, but the law of the conservation of energy and of matter teaches us that the end results are the same, and that the same amount of heat has just as certainly been released in the one case as in the other.

Effect of Heat on Body-Tissues in General. While it may now be granted that oxidation produces heat, the converse is not necessarily true that heat produces oxidation, but heat is necessary to, and productive of, certain chemical changes, and the point I wish to make is that, having still in mind the same laws of nature relating to the conservation of energy and of matter, if we parallel reversely the process of the two methods of oxidizing the log, then we come to the conclusion that, whether the heat be applied all at once (the reverse of the chemical process which takes place when the log is burnt up), or whether the heat be applied for a long time very mildly and almost imperceptibly (the reverse of the chemical process of slow decay), in either case the end result is the same, the only difference being in the speed of accomplishment. This is subject to the modification, of course, that certain temperatures may permit or encourage bacterial intervention, and also, that this discussion relates to living tissues, and that, in so far as heat deprives those tissues of their fluid content, where this is done slowly, such fluid may be (at least in part) replaced by the circulation, and the heat action upon the tissues is somewhat, but not wholly, thereby minimized or mitigated. Indeed, I make bold to say that even these very fluids which I have been relying upon to mitigate the action of the heat upon the body tissues, to some extent themselves help to bring about tissue changes by reason of their circulating through the tissues at or near the body heat of 98.6 degrees F. At certain given low temperatures, such as we find in cold storage houses, we see that oxidation or decay of organic bodies, e. g. food, is practically suspended, and there are all grades of speed of oxidation or decay (I do not hold these to be strictly synonymous) between practically complete suspension of same, and the rapid destruction of food by fire. We do not here consider the part played by bacteria whose growth is inhibited at the low temperature, for the chemical reaction of oxidation takes place, though slowly, even where it is too cold for bacteria to thrive.

Heat (Even Normal Body-Heat) as a Cause of Cataract. As applied to the crystalline lens of the eye, whether the heat acts by coagulating the lens substance, or through the extraction of the moisture from the individual cells composing it, at a greater speed than the circulation resupplies that moisture, or whether the heat in question proves to be the last straw when added to the body-heat already there, causing either connective-tissue changes or sclerotic changes in the tissues, is immaterial to this theme,—it is enough if the heat causes in any manner opacities of the lens, regardless of the theory as to the pathology of its occurrence. Is it extravagant to claim that, just as brittleness of bones is the normal and physiological consequence of old age without looking for any definite disease as a cause, so, the maintaining of the delicate crystalline lens at body-heat of 98.6 F. throughout a long life, would make it appear almost miraculous if no tissue changes took place which caused opacities.

The Heat of Fever. Indeed there is good authority for expecting tissue changes when the heat only slightly exceeds body-temperature. Osler[1] says: "Fever, *per se*, increases the disintegration of protein. A high temperature increases the cellular hydrolysis. All fermentive reactions are accelerated by increase of temperature within certain limits, and it is theoretically possible that the increased combustions in simple fever are the direct result of these." "The

febrile infectious diseases, especially of the acute type, may be accompanied by very marked increases in the protein katabolism." "A further specific factor is the continued new formation and simultaneous destruction of cells in inflamed areas." (p. 667.)

Long-Continued Heat. There is plenty of authority to the effect that heat, even if not of an immediately destructive type, when long continued causes opacities of the lens.[2 3 4 7 9]

Heat Coincident With Light. Some speak of exposure to intense light as being a causative factor, but this again brings us right back to the heat proposition, because it is well known that most light rays are accompanied by heat rays, and that light and heat are associated forms, if not the same form differently perceived, of motion. The manner of perception is merely a question of wave length; wave lengths between about 0.000039 cm. and 0.000075 cm. produce color sensation upon the human eye, while wave lengths from 0.00004 cm. to 0.007 cm. register thermometric changes.[3] Thus perceived heat and light waves are found to be very similar as to measured wave lengths.

Climate. So we find that in countries where light and heat are more intense than in the temperate zones, there is a greater prevalence of cataract, and when it comes, it arrives at an earlier age. "* * in India the majority of patients with cataract come to operation at 40 years or thereabouts."[4] Consulting our own experience, we know that the most comfortable atmospheric temperature is one considerably below body-heat, and that an atmospheric temperature of body-heat, or very slightly above it, is considered extremely hot.

Heat Causes Pathology at Slightly Above Normal Temperature. On this thought Osler[1] says, p. 331: "In *Sunstroke* temperature is raised to 104° or 105°, and in very severe cases to 108°; in some cases the temperature reached 112° to 113°." p. 332: "Vallin at first believed that death was due to heat coagulation of the cardiac muscle. Hirsh believes that the cause of death was an alteration of the blood. * * More recent investigations tend to the conception of a paralyzing action on the nervous system, and some toxic element with the probable result of metabolic changes in the neurons * *." p. 334: Treatment by ice packs, ice water, etc., recommended where the temperature is over 104°. This is all pertinent as indicating the slight degree of temperature above body-heat at which recognized rapid pathology begins, having in mind, not the highly developed and very sensitive tissue of the eye, but body-tissues as a whole.

Effect of Various Temperatures. Coming back to the eye, however, Parsons[5] has gathered the following: "The lens becomes opaque on heating to 80° C., owing to the coagulation of the proteids, and this opacity of course is permanent (v. Michel). The temperature may be slowly raised to 65° C. without causing complete opacity (Daddi). Crystallin A, coagulating at 72° C., is predominant in the cortex, crystallin B, coagulating at 63° C., in the nucleus (Mörner)." It is to be noted that these temperatures are considerably below the boiling point of water,—the application of which thought will shortly appear.

Glass-Blowers. "The causation of cataract in glass blowers is interesting in this connection (Meyhöfer, 11.6 per cent. in 506 glass-blowers, Röhlinger, 7.6 per cent. in 287, Robinson). It cannot be due to mere raising of the temperature of the lens, since the aqueous is a bad conductor of the dark heat rays, and the temperature could not be raised to the requisite extent without burning the cornea: molten metal may indeed cool between the lids and the globe without producing cataract. The cause is probably to be found in the enormous increase of evaporation from the surface of the cornea, aided by the continual sweating from the skin. (Leber"),[5] "(p. 762) Robinson believes that the excessive heat of the gas furnaces is the cause of the disease (*Bottle Finishers' Cataract*), an opinion borne out by the fact that the frequency of cataract in bottle makers is in proportion to the extent and length of exposure of the eyes of the different classes of workmen to the fierce glare of the tanks. A shrinkage of the lens substance (drying) caused by the prolonged exposure to the great heat may cause a slight separation of the lens fibers from the capsule."[6] Fox says with reference of the etiology of cataract: "Occupation seems to exert some influence in its production, as glass blowers and those exposed to high degrees of light and heat are affected with enormous frequency."[4] From DeSchweinitz,[7] p.

400: "The late D. W. Greene studied the relationship between increased blood pressure and the formation of cataract, and believed that increased arterial tension exerted a certain influence in the causation of lenticular opacities." "Cataract is especially frequent among glass blowers, and is attributed to the effect of the radiated heat and excessive perspiration. * * It is not improbable that additional investigations, such as the author made years ago, would show the same liability to cataract in *puddlers* and others exposed to intense heat; indeed, Cridland has observed in *furnace workers* cataract resembling that which is frequent in glass blowers, to which the name *furnace workers' cataract* has been given." Rosenau,[9] p. 1072: "There is more than a suspicion that cataracts, retinal and choroidal changes or chronic conjunctival lesions are brought on in glass blowers, and perhaps also in iron puddlers and other persons whose eyes are exposed to very intense heat and light. De-Schweinitz states that he can often tell whether men working at puddling furnaces are right-handed or left-handed, by studying the effect of this exposure on their eye grounds." p. 1022: "Czerny observed lenticular opacity in the rabbit and toad following short application of direct *sunlight* by a convex lens. Werneck and M. Langenbeck obtained similar results." p. 1024: "The prevalence of brilliant sunlight and heat in India has been considered as the cause of the frequency of cataract there."[5] p. 1022: "Widmark caused slight opacity in the rabbit by prolonged action of concentrated light from an *arc lamp;* he attributed it to the ultra violet rays."[5] "Leber attributed it (*lightning cataract*) to coagulation of the lens substance due to katalytic action, though he has since rejected this view; Silex to *albuminous coagulation due to temperature.*"

HEAT, NOT LIGHT, AS CHIEF FACTOR

Fuchs,[8] p. 546, mentions that Burge regards light (rich in ultra violet rays) as the cause of cataract, but that according to Verhoeff and Bell, *heat,* not light, is the chief factor in causing it.

Prof. Van Der Hoeve has recently made claim that cataract is caused by the ultra violet rays, and not by the heat rays, and cites *(Cataracts in the Arctic as well as on the Equator)* as proof of the fact that cataract is almost as common among the eskimos in the bitter cold arctic regions as it is among the inhabitants of India in the intensely hot regions, and that even in India the inhabitants of the higher altitudes in the mountainous regions, where it is not so hot, are subject to the same pathological changes. The answer to this is that *cold does not intercept heat rays,* any more than cold intercepts light rays, both the heat and light being quite likely the effect of but one thing, namely, waves of motion differently perceived. Whatever may be the explanation of light and heat, we know by common experience that the heat of the sun comes to the earth unimpaired by the thousands of miles of intense cold which it traverses before it strikes the heat-retaining envelope of air which surrounds the earth. That intense cold exists beyond the lower heat-retaining envelope of the air is vouched for by all aviators, who dress for intense cold in making altitude flights even in the heat of summer; and is vouched for by anyone who has climbed a high mountain, even in equatorial regions.

Prevention of Radiation Important. In spite of that intense cold, under the envelope of air which prevents rapid radiation, we experience the most intense heat in summer. Also many must have experienced, on a bitter cold day, the uncomfortably hot rays of the sun shining through the window of a railway car, where the glass and contained air prevent the rapid radiation of the heat which had come practically unimpaired through the thousands of miles of ether, and then through the bitter cold atmosphere.

Cornea Prevents Radiation. The cornea may be considered as the heat-retaining envelope, acting the same as the atmosphere to admit the sun's rays, but preventing too rapid radiation; and the crystalline lens may be considered the same as the individual who feels the heat inside of the heat-retaining envelope of either the atmosphere or the railway car window, of which the cornea is a parallel. The cornea not only

Cornea Also a Condensing Lens

acts as a heat-retaining envelope to the crystalline lens, but also because of its convex shape, it serves to concentrate and intensify those heat rays on to the crystalline lens.

As a result, whether the eye in question is in the frigid arctic regions, or in the heat of the desert, the heat manifestations of the light rays are retained in the lens by the heat-retaining

envelope of the cornea and the aqueous humour.

Snow and Sand Intensify Light Heat. An explanation of why cataract is more often found in the arctic regions, in the mountainous regions, and in the torrid zone of India, is that in the cold regions or mountainous elevations an abundance of snow reflects and intensifies the waves of motion which produce heat as well as light, and so also in the torrid zones where there is a brilliant more direct sun or where much sand causes reflections of the heat waves the same as snow would. In the more temperate zones we have neither the excessive reflections from the arid sand nor from the abundant snow, nor the direct intensity of the sun itself—hence cataracts are not as frequent, nor come as early in life in the temperate zone.

Mild Heat Causes Pathology. The point I have been trying to make is that heat, even of so mild a degree as in fever, as shown above, is productive of pathological tissue changes, and that, having in mind the example of the slow oxidation of a log without conflagration and without the production of perceptible heat, and considering the converse of that process, we may reasonably conclude that the long continued application of so mild a degree of heat as that furnished by the blood itself at a normal temperature, will in time cause tissue changes beyond normal metabolism for which normal body-heat is necessary, which changes may simulate pathology resulting from a shorter application of a greater degree of heat. I have not attempted to decide what that pathology is, whether coagulation of the proteids,[5 1] shrinkage of the lens substance and separation of the fibres,[6] or metabolic changes in the neurons;[1] the principal idea of interest is that it seems quite universally agreed that some pathology takes place, and that when such pathology attacks the eye, opacity results.

ADVOCATING THAT HEAT, IF USED, SHOULD BE UNDER STRICT SUPERVISION

Having these premises in mind, are oculists justified in recommending optionally the use of intensely hot applications to the eye, as well as cold, and often preferring the former? Where it is practically universally conceded that heredity plays an important part in cataract formation, is not the indiscriminate use of hot applications to the eye for lid or conjunctival troubles, like "jumping out of the frying pan into the fire"? Is it not adding a greater insult to a minor injury? The patient is taught the advantage of hot applications, and frequently of his own accord, without consulting his physician, will make use of it. The use of hot applications has become time-honored. Who can say, in the face of the known effect of repeated exposures to heat, that many of the lens opacities or cataracts which we see today, are not the result of heat applications oft repeated, added to a predisposition, or to the insults of fever-heat during past sickness, or even to long-continued normal blood heat in senile cases.

Unmeasured Heat Popularly Recommended. That heat applications are advocated as a matter of course and of precedent by the best of our ophthalmologists is readily seen by looking into any work on opthalmology. Wood,[6] p. 82, says: "Cold or iced applications should not as a rule be used as long or as often as hot applications. * * Cold applications should not cause pain or discomfort; if they do, they must be discontinued or replaced by hot fomentations. Cold is generally employed in superficial inflammations of the eye ball and lids, * * * but is to be avoided when the cornea becomes affected." Fox,[4] in speaking of the treatment of conjunctivitis, "if the hyperemia is active, cold applications are indicated, if passive, hot fomentations should be tried." Otherwise Fox says little or nothing about using heat. Weeks (p. 307) advocates moist heat for several conditions. DeSchweinitz,[7] pp. 188-193, advocates frequent bathings with hot water. Fuchs,[8] pp. 56, 190, 200, describes the various means of applying heat to the eyes for therapeutic purposes; and advocates hot moist compresses several times a day for one or two hours at a time. Wood,[6] p. 83 et seq., goes into detail:

> Heat in eye surgery is generally applied in the form of moist applications. *Dry heat* is sometimes used, but its action does not seem to be as effectual in promoting absorption of the products of ocular inflammation as the moist forms. * * * A simple and easy plan is to take an ordinary saucer and place it in the oven until it is too hot to handle. It should then be wrapped in a piece of flannel which has been well heated, and applied over the eye and surrounding parts, previously filling in the depression around the eye ball with warm cotton wool. The whole dressing should then be kept in place by a bandage. P. 83: Several workers have devised methods for applying heat directly to the eye ball. For example, Ostwalt has invented an appliance called Thermaerophore,

which essentially consists of an elastic bulb and spiral tube, and a soft rubber cup (with attached thermometer), large enough to fit over the orbit. Fresh air is driven by the bulb into the spiral tube which is placed over a Bunsen burner and the air heated by these means is then forced into the rubber cup. The dry superheated air can be borne at a *temperature of 100°, 150°, or 175° C.* Treatment given once, or occasionally twice a day is continued for about half an hour. The apparatus is *intended to be used by the patient himself.*

I do not understand that Wood himself advocates this, but that he is merely reporting Ostwalt's idea for whatever it may be worth. *In spite of the fact* that the *lens coagulates at from 63° to 72° C.*[5] we find a man like Ostwalt (who is prominent enough to be quoted) advising the use of heat as great as 100°, 150°, or even 175° C., and the appartus was designed to be used by the patient himself.

Another apparatus is described[6] for delivering hot moist steam at 40° to 45° C. Leiter's coils are mentioned, also hot moist applications for continuous use. "Hot applications to be of any therapeutic value should be applied every hour or two (depending upon the severity of the case) and for ten or fifteen minutes at a time. The temperature of the applications should be as high as can be endured, 115° to 120° F." Hot water bottles and the electric iron are also mentioned.

The widespread education of the public to use hot applications, together with the long-delayed effects of such applications of heat, causes the dangerous oblivion. The comparatively small number of cataracts, so-called, which we find in this country, is no contra argument. All ophthalmologists know that there are countless patients who finish life's journey with lenticuar opacities that are not dignified by the name of cataract, are never operated upon, but which nevertheless impair visual acuity.

ADVANTAGES OF THERMAL TREATMENT OF OTHER TISSUES NOT PARALLEL IN TREATMENT OF THE EYE

The results of inflammatory or heat changes of protoplasm or tissues in other portions of the body are not fraught with such evil consequences as in the case of the highly specialized and transparent structures of the eye; muscle tissue, cartilage or skin, through inflammatory or heat changes, may become more impervious to light, without suffering the slightest impairment of function, but is is apparent that in the transparent tissues of the eye, such a change would be fatal to the function of that tissue; hence the precedent of thermal treatment of other portions of the body should not be blindly followed.

Cold Applications to the Eye. What about the use of cold? Cold of course is a negation or absence of heat—a lower degree of heat—and within ordinary limits it merely retards change, that of normal metabolism, as well as that of pathological degeneration; it tends to preserve the statu quo. "If a frog is frozen the lens becomes opaque before the animal dies, the opacity disappearing on thawing (Kunde)."[5] Continuing: "If the human lens is frozen it becomes completely opaque, and on thawing clears up. * * * Leber found that the opacity in the frozen calf's lens was simply due to the increased refractive index of the frozen lens-fibres."[5] "In many new-born or very young animals, cooling to nearly 0°C. causes opacification of the lens, which disappears at a slightly higher temperature."[5]

And, in many instances the use of cold will counteract the effects of local inflammation, and while natural repair may be thereby retarded, yet the end results of the heat of the local inflammation may be also thereby mitigated. Sometimes, it is true, hot applications are received more gratefully than cold, but in most cases of this kind, a simple wet boric compress, which is applied lukewarm and allowed to assume the body temperature, may frequently give as much relief, and leave the satisfaction of not having contributed to the formation of lenticular opacities.

Of course, cold applied to the living tissue to the point of interrupting circulation, causes damage, due, not to the cold, but to the lack of blood supply. The cold *per se* causes no chemical or physical changes, but only indirectly by impairing circulation. So I do not advocate extensive use of extreme cold. Either extreme is bad, but in using a slight departure from body-temperature, cold is preferred for reasons herein stated. However, we have so many therapeutic measures at our command, that in many cases thermal applications can be dispensed with entirely.

SUMMARY

1. Long continued applications of mild heat have the same effect ultimately as shorter appli-

cations of more intense heat, considering the law of the conservation of energy and of matter.

2. Heat coagulates body-tissue, or at least produces pathology.

3. Cold (absence of heat) does not cause permanent tissue change, when not carried to the point of preventing circulation; and experimentally a frozen crystalline lens has returned to transparency upon thawing.

4. Heat from various sources causes body-tissue change—such as furnace heat (on glass-blowers and puddlers and possibly bakers), heat of sun's rays; also milder degrees of heat, such as fever, and, it is argued, such as even normal body-heat acting over a long period of time.

5. Heat rays accompany light rays, and neither are retarded by cold. It is merely a question of having an envelope which the heat rays can penetrate, but which prevents radiation. The cornea acts in that capacity to retain heat in the crystalline lens. The cornea, also, as a convex condensing lens, intensifies the heat rays upon the crystalline lens.

6. If muscle tissue or skin is made less translucent through changes caused by proper therapeutic heat applications, no impairment of function may result, but such a change would be fatal to function of crystalline lens, which therefore cannot be treated the same as other tissue.

7. Hot applications frequently added to a predisposition towards cataract formation, may become insidiously dangerous, and may cause opacities which are not dignified by the name "cataract", but which nevertheless impair vision.

8. Hot applications are frequently prescribed in eye cases for unlimited home use by patient. A plea is made for the use of other therapeutic measures if possible, and where hot applications seem absolutely necessary, then strict medical supervision and proper cautioning of patient is urged.

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DIAGNOSIS AND MANAGEMENT OF OCCIPUT POSTERIOR POSITIONS*

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The management of occipito-posterior positions is exceedingly important for the reason that fetal mortality and maternal morbidity are exceptionally high. There are perhaps more babies lost in these cases than in any other single obstetric presentation. The reason for this is the failure on the part of the physician to understand thoroughly the mechanism of labor in the posterior position and his failure to make a diagnosis previous to the onset of labor or early in labor. The high mortality and morbidity are especially seen in cases delivered by forceps. Cragin gives the following statistics:

In 20,000 cases there were 337 persistent occipito-posterior positions or 13 per cent. In this number there was one maternal death from sepsis. The fetal mortality was 78 or 23 per cent. Stillbirths numbered 45, while 33 died before the mother left the hospital. Difficult labor accounts for 23, accidental hemorrhage for 3 or 26 cases which justly could be charged to the deliveries. This gives a fetal mortality of 7.66 per cent., due to the delivery—much too high.

The diagnosis of occipito-posterior positions sometimes presents difficulties but, if the condition is borne in mind at all labors, it will be discovered more often than it is at present. Many times inspection gives us a clew. There is a hollow area over the pubis. It is frequently 2 or more inches in width and about 3 inches long. It runs almost parallel with Poupart's ligament. The greater portion of the hollow area is on the side opposite the back, i. e., in right positions it is located on the left side of the median line. The small parts are often seen moving over the greater part of the anterior abdomen. If not seen they can be readily felt. There seems to be a profusion of small parts. The anterior shoulder is also felt far out of the median line. The back is felt in the flank and the fetal heart is usually heard in this position. Occasionally it is transmitted through the chest wall and is heard best near the median line. The forehead is often palpated above the ramus pubis.

Rectal examination made early in labor re-

*Read before the Chicago Medical Society, March 1, 1922.

veals the head high up and external os in the hollow of the sacrum. If the cervix is open enough to admit the finger the large fontanelle will be found either near the center of the pelvis or anterior to it. The small fontanelle, if felt at all, is near the hollow of the sacrum. The head may enter the pelvis partly deflexed, hence the difficulty of locating the small fontanelle at times.

A little later in labor it is noted that there seems to be some delay in the mechanism. Progress is not made and the pains are weak and irregular and the patient begins to complain bitterly of backache. The head does not descend, the cervix remains stationary and the membranes rupture early. Or, if descent takes place, the head sticks in the transverse diameter and becomes arrested and a large caput forms. Rectal or vaginal touch reveals the sagittal suture in the transverse diameter. Still later, the mother shows signs of exhaustion, the pulse rising and becoming weaker. The face becomes drawn and the lips parched. She pleads for relief.

I wish briefly to call to mind the mechanism of labor in the right occipito-posterior position. The head engages in the right oblique diameter. Occasionally the head remains high up and will not engage. Fortunately this is rare. The occiput points posteriorly, usually slightly forward of the sacro-iliac joint. Along with engagement there is a tendency toward flexion, but the head is seldom flexed as much as in anterior positions. As soon as the head reaches the pelvic floor it has a tendency to rotate anteriorly in a large percentage of cases. The head had to rotate through an arc of 135 degrees, 90 degrees farther than the anterior variety. During this increased rotation the head descends the same distance as the anterior variety. Therefore, it travels in a circular manner three times as far with the same amount of descent. This requires considerable force on the part of the uterus and very often a great deal more time which accounts for the fact that these patients are in labor so long. Remember also that the cervix does not dilate well, and frequently dilation and rotation have to go on more or less simultaneously. Rotation is seldom completed until the cervix is fully dilated. After rotation is completed the mechanism is the same as in occipito-anterior positions.

In a few cases the occiput fails to rotate anteriorly but does rotate posteriorly. The occiput then travels through an arc of 45 degrees. This looks as if labor ought to be less tedious. Such unfortunately is not so. Labor is usually long and drawn out due to the fact that the head descends in the military attitude, which brings the larger diameters into relation with the pelvic inlet. The uterus must mould the head, causing it to become dolicocephalic. The back and head have to pass through the birth canal together, producing more or less impaction. The delivery takes place in one of two ways. Extreme flexion may take place. The head is forced downward and backward against the perineum which bulges frightfully or tears badly. The forehead stems under the pubis and the occiput then emerges over the torn perineum until the nape of the neck appears. The face is born by extension.

In the second method the head extends—the brow appearing at the vulva, the glabella stems behind the pubis. The occiput is born. This causes more distention of the perineum, hence is less favorable. Lacerations are much more severe. After the occiput is delivered the face is born by extension. With the rest of the mechanism you are all familiar.

Now we come to the management of these cases. For the purposes of discussion we will deal only with primipara because labor is usually much longer in these patients than in multipara. It is essential that the diagnosis be made early. Every case in labor should be examined at the earliest moment. At the Chicago Lying-in Hospital, on admission, the blood pressure is taken, the abdomen palpated, the presentation and position determined, the fetal heart tones taken, the baby's weight estimated and a rectal examination made. If an occipito-posterior position is found, the consistency and dilatability of the cervix is estimated. As soon as the pains are well established the progress of dilation is closely observed. If it seems to be slow, it is my custom to administer morphin, gr. ¼, with scopolamin, gr. 1/150. This is administered early in the first stage of labor, long before the patient shows signs of exhaustion. This is essential. I believe most of us wait too long in these cases to use this valuable aid. The cervix in most instances will dilate promptly. I have seen complete dilation take place in three hours. Just recently a patient was in labor eight hours with no progress. The cervix dilated to 2 cm. when

the morphin and scopolamin were given. She delivered spontaneously in 3 hours and 45 minutes. Aside from the effect on the cervix the patient is relieved considerably of the backache. My statistics show that I have cut down the average length of the first stage over 20 hours. I ascribe this result to the early use of drugs. The late use will not produce results, because the patient is tired, the reserve is gone. Occasionally it is necessary to repeat the scopolamin (gr. 1/200) once or twice. This I do at two hour intervals, first examining the cervix rectally. If I find it dilated to 8 cm. +, I never give more.

If the cervix fails to dilate after three or four doses of scopolamin are given, I allow the patient to wake up. If the pelvis is normal a Voorhees bag is inserted (7 to 10 cm.) depending on the dilation. A pound weight may be attached if necessary.

The patient is allowed to wake up as soon as the cervix is dilated to 8 cm. +. If the bag of waters is not ruptured when the dilation is nearly completed, it is ruptured artificially using the Hillis probe.

In many cases delivery takes place spontaneously or at least anterior rotation occurs. If the latter, it is an easy matter to apply the low forceps and complete the delivery. It so happens occasionally that the uterine force is expended on turning the occiput and little is left for expelling the child. It is in this class that low forceps are used.

There is another class in which rotation does not occur and in which the cervix does not dilate completely. The cervix does dilate usually to 8 cm. at least. These patients should not be allowed to labor an indefinite time because there are too many risks. Sepsis is liable to occur regardless of whether vaginals have been made or not. The uterus is exhausted and its resistance is lowered. The lower uterine segment may thin out, forming Bandl's ring. Thus thinned it is liable to rupture. In fact, I assisted at a Krönig Cesarean section in which the segment was ruptured. Fortunately the peritoneum over the rupture was intact. Again, the fetus may die *in utero* or the constant pound of the uterine contractions may cause brain hemorrhage with its subsequent Little's disease, etc. In these cases it is best to interfere. Just what method of procedure to choose is difficult to state. It is a matter of judgment. Given a normal pelvis, a moderate sized child and a cervix dilated 8 cm. +, Duhressen's incisions, manual rotation of the head, holding it in place with volsellum forceps and the application of forceps is the usual procedure. If the mechanism of labor is understood, the delivery is easily accomplished with little damage to mother or child. Occasionally it is necessary to push the head out of the pelvis, and with the tips of the first two fingers get a purchase on the posterior shoulder and swing it past the promontory. This places the back anterior. The hand outside helps by pushing the anterior shoulder toward the opposite side of the pelvis. The inside hand then guides the head into the pelvis. It is brought down as far as possible when the forceps are applied. This manoeuver must be done under deep anesthesia and the liquor amnii must not be drained out completely. I have had no occasion to use the forceps to rotate the head. The Scanzoni manoeuver in the majority of hands is a dangerous procedure. The pelvic soft structures are apt to be torn from their attachments. On several occasions I have been forced to apply forceps to the head in the transverse position. A few trial tractions are made with the blades loosely locked. The head has rotated inside the blades in the majority of instances. It will do so provided the pelvic floor offers resistance. When the head has rotated to the oblique diameter the forceps are adjusted to the sides of the head and delivery is effected. Occasionally it becomes necessary to deliver the child occipitosacral with the forceps. This is not good practice. In these cases, tears are deep and hard to repair unless the child is very small.

Given a normal or slightly contracted pelvis, a high head, a cervix 9 cm. +, membranes intact, or recently ruptured, a child not too large, version and extraction may be employed. Until recent years this operation has not been used often. It has a definite place. It should never be attempted when there is marked disproportion between the pelvic inlet and the child's head. It may be used if the cervix is not dilated fully. In this case the extraction should not follow. The breech is brought down and the patient allowed to come out of the anesthetic. With return of the pains dilatation will go on and the patient will usually deliver spontaneously or at least with manual aid. Version is not a good operation in patients with a rigid

cervix and rigid vaginal soft parts. The baby is usually lost and the soft parts are badly lacerated. Cesarean section yields much better results.

Cesarean section should be used only in selected cases. The classic Cesarean should be limited to those cases which have had no vaginal examinations, where the child is large and the pelvis small. The low cervical, or Krönig Cesarean, has a wider field of usefulness. It may be used after the membranes have ruptured and even after one or two aseptic vaginals have been made. I have used it in 3 cases—one case in which an elderly primipara with a moderately contracted pelvis was given a test of labor lasting 35 hours, baby weighed 6 pounds 3 ounces; another primipara with the same type of pelvis after a test of 38 hours, baby weighed 7 pounds 3 ounces; the third primipara, a short fat (weight 180 pounds) woman with a generally contracted pelvis and a large baby. She was in labor 22 hours and the baby weighed 10 pounds 10 ounces. The first two cases were low Cesareans and the last a classical.

Occasionally it is possible to assist the rotation by Hodge's manoeuver without the use of an anesthetic. Flexion is favored by pushing up on the sinciput. This is done with the hand in the vagina. Pressure is exerted during pains. On one or two occasions I have succeeded in rotating the head manually during pains. This works best in multiparas.

I hope you have noticed that our enemy pituitrin is conspicuous by his absence in the first and second stage of labor in these cases. I never use it in primipara. I have used it only twice in 79 cases—once in a para V because pains stopped in the second stage, and once in a para II with a small baby, 6 pounds 5 ounces. I have a fearful respect for this drug in occipito-posterior positions.

A mediolateral episiotomy is done in all primipara and in many multipara. In all para with persistent occiput-posteriors, a deep episiotomy is done. This cuts all the structure down to the levator ani muscle.

The management of the third stage of labor requires some skill. Many of these uteri are exhausted and half of the patients are under anesthesia, therefore there is a tendency for hemorrhage to occur. The use of pituitrin here is indicated. At the Chicago Lying-In Hospital we make it a rule to use ½ cc. pituitrin subcutaneously immediately the head is born. This causes the uterus to contract well. There is no hurry about delivering the placenta. We wait until it is in the lower uterine segment and then express it. If hemorrhage occurs the uterus is cleared of clots and if necessary ½ cc. pituitrin is given directly into the uterine wall through the abdominal wall. We seldom pack any more.

After the third stage is over the cervix is inspected—tears are repaired with interrupted 40 day, No. 2 catgut. The episiotomy wound is repaired layer by layer, using catgut and silkworm gut or silkworm gut alone.

Occiput Posterior Positions occurring in (a) 5000 hospital cases and (b) 552 private cases.

1.

	Operative	Spontaneous	Total	Pct.
a	150	141	291	5.8
b	40	39	79	12.5

2. Para.

	a	b	a	b
1	103	30	46	15
2	33	5	55	14
3	4	1	20	6
4	5	2	8	1
5	0	2	6	2
6	1	0	3	1
7	1	..	2	..
8	0	..	0	..
9	1	..	0	..
10	1	..	0	..
11	1	..	1	..

3. Baby's Weight.

	Average	Highest	Lowest
a	7 lbs 2¼ oz.	10 lbs. 8 oz.	3 lbs. 3½ oz.
b	7 lbs. 7 oz.	10 lbs. 10 oz.	4 lbs. 7½ oz.

	a	b		a	b
3-4 lbs.	1	0	7- 8 lbs.	106	30
4-5 lbs.	7	1	8- 9 lbs.	56	16
5-6 lbs.	17	5	9-10 lbs.	14	3
6-7 lbs.	85	19	10-11 lbs.	5	2
			Not recorded	..	3

4. Condition of Babies.

	O. K.	Deaths and Stillborn	Macerated	Poor
a	284	6	2	..
b	76	0	1	2

Of the poor cases 1 died in 3 days toxic, 1 premature 6½ mos. died.

Four of the six hospital deaths should have been prevented. One was an anencephalous monster and one premature.

5. Fetal Complications.

	a	b
Facial Paralysis	10	0
Fracture clavicle	1	1
Foot and leg paralyzed	1	0
Maternal death	1*	0

*Died pulmonary embolism 14th day.

6. Labor.

Primapara—	1st Stage hrs.	mins.	hrs.	mins.	2nd Stage hrs.	mins.	3rd Stage hrs.	mins.
	a		b		a	b	a	b
Average	41	12	20	40	2.45"	1.32	13"	11
Longest	83	0	65	..	8.42	5.20	50"	38
Shortest	1	15	2	..	15	10	2	5
Multipara—								
Average	14	56	13	38	1.17	1-35	10	9
Longest	72	..	52	30	8-21	6- 1hr.-7		28
Shortest	1	..	2	15	-40	-5	1	4

Type Operation—

Complications

Hospital Cases

1. Cited by Provost, Press Med., Feb. 1, 1922.

Low Forceps	a 89 b 13	Version & Extraction.	a 3 b 5
		Cesarian	a 3 b 3
Mid Forceps	a 65 b 11	Persistent Posterior...	a 43 b 14
High Forceps	a 16 b 6	Craniotomy	a 1 b 1

Complications.

Hospital Cases		Private Cases
43	Persistent Posterior	14
1	Craniotomy	1
1	partial abruption Placenta	0
3	3rd degree Lacarations—all by outside physicians	0
24	Post Partum hemorrhage	4
3	Bandls contraction ring	0
1	Prolapsed cord	0
0	Placenta Previa	1
3	Duhrsens Incisions used	9
26	Manual Rotations succeeded	12
*1	Maternal death	0

ANESTHESIA IN CHILDREN; SAFEST METHODS AND AGENTS.*

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Methods—General Consideration.—In a consideration of the safest methods of administration of general anesthesia in children, intratracheal, spinal, rectal, and intravenous can be dismissed at once as being too dangerous, or at least, as not having been proved conclusively to be safe for them. All authorities seem quite agreed that the safest method of producing general anesthesia in children is by inhalation. When local anesthesia is used, the infiltration method is the only one generally recommended. Farr, of Minneapolis, reports success with local anesthesia in ninety per cent. of cases.

Anesthetic Agents—General Consideration.—As serious accidents are still occurring with every anesthetic agent and in expert hands, we may consider the *relative* safety only of anesthetics. Ether vapor is more irritating to mucous membrane than any other anesthetic. Chloroform and ethyl chloride are less irritating, and nitrous oxide-oxygen the least of all.

Concerning the changes in character and constituents of the blood under different anesthetics, the researches of Casto and others seem to indicate that whatever changes occur in coagulability, hemoglobin content, cell relations and morphology, hemolysis, or acidity are more or less transient and do not constitute elements of especial danger. But these investigators are of the opinion that all such effects are far less marked and less enduring under nitrous oxide-oxygen than under other anesthetics. After nitrous oxide-oxygen the phagocytic power of the blood and metabolism are disturbed only transiently if at all. With ether the opsonic index is not back to its pre-operative level until two to five days after anesthesia. Therefore nitrous oxide-oxygen is preferable in septic cases.

Graham and others have demonstrated that chloroform sometimes causes fatty infiltration, necrosis, and a hemorrhagic tendency in the liver and other organs. All of us are familiar with the circulatory and respiratory depression that often occurs during chloroform anesthesia. Even in Europe where the use of chloroform has been quite prevalent, ether is rapidly coming into favor.

Some noteworthy clinical research work in ethyl chloride has been done recently by Guedel of Indianapolis. He likes ethyl chloride for instantaneous and not too painful operations at all ages, and for induction in the child up to two years. Ether is introduced and the two dovetailed together before any of the danger signals have appeared.

A recognized authority on gas-oxygen anesthesia, McKesson of Toledo, asserts that, "In regard to the use of gas-oxygen in children, age has no influence at all in the selection of anesthesia and besides there is not much variation in the technic in administering a baby an anesthetic from the technic for adults * * *A child is quickly anesthetized as well as he is quickly deoxygenated. From this fact it is necessary to administer very carefully the proper mixture in order to have a smooth narcosis." Dr. McKesson has given many gas-oxygen anesthesias for abdominal work in children—for congenital pylorospasm, et cetera, in infants of a few days up. He spends as much as ten minutes, sometimes, in securing the proper mixture for infants.

Another gas-oxygen anesthetist of wide experience, McCurdy of Pittsburgh, observes that children are not bad risks for gas anesthesia and uses it in children from six months up.

Anesthesia in children in my own experience may be divided into two groups. The first group comprises 2,000 cases of anesthesia which the students of Rush Medical College have given in the Central Free Dispensary under my instruction and personal supervision. The second group numbers about 250 cases to which I have given the anesthetic myself. In the former group practically all of the operations have been for the removal of tonsils and adenoids, while in the

*Read before Chicago Medical Society, March, 1922.

latter nearly all of the operations have been other than for tonsils and adenoids.

Methods.—The importance of the induction period can scarcely be overestimated. Young children seldom exercise any control of their fears and dislikes. If a child goes to sleep frightened and crying, a mild though definite degree of depression is present during and for some time after the period of anesthesia. If an anesthetic becomes imperative at any subsequent time, he will dread the ordeal even to the imperilling of his safety. Another danger is the consequent irregular breathing. When a child cries and struggles, inhalation is short and very deep, while exhalation is prolonged, thus wasting much time. A deep, quick inhalation may convey an excessive or paralyzing concentration of the anesthetic agent to the heart. If the anesthetic be ether there is more irritation of the mucous membranes and reflexly an abnormal increase in the flow of saliva and mucus which often prevents the proper intake of oxygen, obstructs the view of the operator in mouth operations, and lastly, but most seriously of all perhaps, may possible result in an aspiration pneumonia.

Entering into the confidence of and controlling the thoughts of the child is even more indispensable with local than with general anesthesia. Without the confidence and co-operation of the child, local anesthesia is a failure except in infants, while general anesthesia becomes a knocking out process. The method of obtaining the confidence of a child must be as varied as are individual dispositions. And it is a rare art to gain psychic control of a child almost instantaneously. But it can be done in practically every child of normal mentality, four years of age or older, who has not been frightened by a previous anesthetic, and who has parents reasonably sensible about the matter. Most younger children can be managed so that they do not suffer any severe fright.

It is a mistake to take a child to the operating room long before he is to be anesthetized. An infant should be unconscious before the preparation for operation is begun. Asepsis is much more satisfactory. The solutions used in cleansing the skin are painfully irritating to a baby's skin, and if he is awake so as to be sensible to their use he becomes terribly apprehensive and suffers more than he possibly could from five minutes more of light anesthesia.

It is pleasanter for the patient if gas-oxygen is used for the induction of ether anesthesia. Great care must be taken that the patient is well accustomed to a strong ether vapor before changing to straight ether, or coughing will often result. Another important practice which I have tried out thoroughly is that of making the change from the mask of the gas machine to the one moistened moderately with ether during one exhalation so that the patient does not get one inhalation of air. If these two points are observed patients practically never cough from the change. When either alone is administered, the open drop-method is employed. A Schimmelbusch mask is covered with two layers of stockinette stretched until it is taut. The mask is *always* lowered slowly, for ether vapor is much less irritating to the respiratory tract if well diluted at first with air. With very young infants the mask may never be completely lowered. With older children a towel around the edges of the mask excludes air to the required degree.

The intrapharyngeal method of giving ether is sometimes used for induction and should always be used in cleft palate, tonsil or other mouth operations having a duration of more than about five minutes, in order to insure an even, smooth anesthesia which is not too deep at any time. The practice of putting the child under deeply enough to hold for a considerable length of time, in spite of the fact that the mouth is wide open, permitting an unusually free entry of air, is vicious and dangerous. The immediate dangers are needless depression of the heart and respiratory center, a prolonged total period of anesthesia, and greater possibility of aspiration of blood; and the more remote dangers are destruction of the epithelium of the respiratory tract and injury, temporary or permanent, to the parenchymatous cells of the kidneys. There is more decrease in the phagocytic power of the blood from such a saturation, more interference with cell metabolism, and more nausea and vomiting in the hours following anesthesia.

With nitrous oxide-oxygen in the very young, I start with a mixture containing 5 per cent. to 10 per cent. oxygen, change to 100 per cent. nitrous oxide for a few inhalations if necessary, and then find the level at which anesthesia is to be maintained. In older children, five to ten

years of age, 100 per cent. nitrous oxide is often given first and then oxygen introduced. The child will be less alarmed if the mask is lowered gradually, the gas being forced over to him at first and then the pressure reduced as soon as the mask is down. In administering gas under positive pressure, I feel safer to use some rebreathing.

ANESTHETIC AGENTS

First Group.—In the cases reported ether and nitrous oxide-oxygen were the only anesthetic agents used. In about 600 of the 2,000 tonsil cases a hypodermic of atropine was given one-half to one hour or longer before the administration of ether. As these children are carried so lightly that the eye-ball has a mild expression and is not fixed staring straight forward, the effect of atropine upon the size of the pupil and its reaction to light is of no consequence. There were no untoward effects from the use of atropine.

In the remaining 1,400 tonsil cases straight ether was given. The anesthesia was not as smooth, there being often a dangerous excess of saliva and mucus which had to be removed by the suction pump during the induction period. So that in a teaching clinic where students are learning to give their first anesthetics and where the patients are children improperly cared for, a child is safer if atropine is administered one-half hour to one hour previous to ether.

In these 2,000 children the only ones presenting serious difficulties have been four or five in whom the thyroid was enlarged and one very recent case, of a boy five years eight months old, who had a persistent thymus. This thymus case, anesthetized over three weeks ago is alive and well now, but he was resuscitated with the greatest of difficulty.

Second Group.—The children in the second group of about 250 cases were all ten years of age or younger. Quite a number were under six months, and about one-half of the total number were under six years of age. Most of these children were operated upon for conditions which kept them in the hospital a sufficient length of time for any ill effects of the anesthetic to become manifest. With tonsil cases in a large city there is little probability of the child returning to the original clinic or hospital if untoward effects occur. Then, too, the anesthetic in these 250 cases was for the most part of longer duration, sometimes of greater depth than is required for tonsil work, and often in children with more pathology than many tonsil cases have.

In these cases whose records show the urine to be normal before the anesthetic, a trace of albumin occurred in about five per cent. and casts and albumin in about three per cent. of those having ether. Unfortunately some prominent surgeons do not make it a routine to have the urine examined the day following the anesthetic. In none of the cases were there clinical symptoms indicative of the kidney irritation. The children with a tuberculous hip or spine constitute a large proportion of those showing albumin and casts in the urine after ether. Nausea and vomiting of any consequence occur in less than one per cent. regardless of whether gas or ether was used. Conjunctivitis has never occurred. I have not found record of a single pneumonia in these children and less than 0.5 per cent. have bronchitis.

A temperature reaching 100° to 101° at some time within the first twenty-four or forty-eight hours occurred in about 25 per cent. of the children, while a temperature reaching 101° to 102° occurred in about 15 per cent. Thus, about 40 per cent of children have a transient, moderate rise in temperature following anesthesia and operation. If this rise is marked or prolonged, the probable causes to be looked for are; acute pumonary infections, constipation, and complications resulting from the operation including infections of the kidneys.

No ill after-effects have ever been noted in cases having nitrous oxide-oxygen alone or combined with a very small amount of ether. There has been only one accident with nitrous oxide-oxygen and that was in my first six months as an anesthetist. The patient, a boy about seven years old, ceased breathing but respiration was resumed spontaneously. The fault lay in my lack of experience. I have given nitrous oxide-oxygen to a number of children under six months and to a considerably larger number two years old and up. No difficulty has ever been encountered except in the one case cited.

SUMMARY AND CONCLUSION

1. Accidents and even death may result from the administration of any anesthetic agent even

in the most skilled hands. Many slight, untoward after-effects which do not cause much distress clinically, escape the knowledge of all except the careful observer who makes proper use of the laboratory.

2. Methods. The safest method of producing general anesthesia in children is by inhalation. Ether is given by the open drop-method or intrapharyngeally. Nitrous oxide-oxygen is given with a higher percentage of oxygen usually than in adults and under slight positive pressure, with a proper amount of rebreathing. Infiltration is the only method advisable for local anesthesia.

3. The importance of a slow induction period with the child's mind calm and his respiration regular cannot be overestimated.

a. Children are extremely susceptible to suggestion. Their confidence must be gained and their fears and thoughts controlled.

b. The deep inhalations resulting from fright lead to dangerous irritation of the respiratory tract with ether and cause an excessive concentration of any anesthetic agent to reach the heart suddenly.

c. If a child is frightened or smothered with his first anesthetic, his remembrance of the ordeal may imperil his safety if an anesthetic becomes imperative at any subsequent time.

4. Chloroform should not be administered to children for the dangers of immediate depression and of delayed poisoning are too great.

5. Ethyl chloride is applicable for very short operations and for induction, but dangerous except in skilled hands.

6. Ether is perhaps the safest anesthetic if the anesthetist is only moderately expert. The untoward effects of a first class ether anesthetic are almost negligible. I prefer a preceding hypo of atropine.

7. Nitrous oxide-oxygen is the safest as to immediate and remote effects when administered by an expert. Gas with a little oxygen is preferable for induction as a routine. Gas-oxygen is indicated in all septic cases.

8. In children age is not a contraindication to the use of ether, nitrous oxide-oxygen, or local.

9. Since there is a much narrower margin between surgical anesthesia and the danger zone in children than in adults, it is advisable that a competent anesthetist administer the anesthetic.

MALIGNANT GLANDS AND THEIR PROPER TREATMENT WITH RADIUM.*

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If, in eliminating the original cancer lesion, our task was finished, there would be no cancer problem. But in attacking a carcinoma or sarcoma we most earnestly desire a sixth sense, that would permit us to know, just how far the cancer invasion has gone. This insight, however, is denied us, and we have only our own and the experience of others to aid us in determining the probable path of cancer cells from the intial lesion.

We have learned that from a malignant growth on the side of the tongue, we may look with almost unvarying certainty for a malignant invasion, first in the submaxillary gland on the same side. The second gland to become infected is the sublingual or one of the cervical chain. If the initial lesion is on the side but toward the back of the tongue, the lymph glands in the base of the tongue and those lying near the larynx become involved early. These cases are as a rule desperate and the prognosis is bad.

If the cancer is in the base of the tongue, the tonsil on that side is usually involved, and the first outside palpable gland, is the cervical, just under the ear.

In epithelioma of the lower lip, the first sign of metastases is in the submaxillary and sublingual glands. It is not uncommon in these cases to find metastases as far as the bronchial lymph glands. I have the record of a case where a sarcomatous eye was enucleated, and radium was used in the orbital cavity. There was never a recurrence, but after three years of good health, the patient died from cancer of the liver. Was this a metastasis, in which the cells remained latent for this long period? Or was the cancer of the liver an entirely new development?

When the cancer is situated in the buccal cavity, the first involved gland is usually the submaxillary, though in some instances the parotid gland shows signs of involvement at the same time. In untreated and maltreated cases the metastases spreads to the cervical chain,

*Read before Section on Surgery, Illinois State Medical Society, Chicago, May 18, 1922.

down as far as the supra-clavicular region. Pain is not pronounced in these cases until the gland just back of the mastoid attachment of the sterno-clido-mastoid becomes invaded. Then the patient complains of pain in the ear and the ocipital region. In these advanced cases, metastases have occurred in the mediastinum.

In cancer of the tonsil, the cervical glands early become palpable.

Cancer of the buccal cavity and the tonsil, may have healed promptly and show no sign of recurrence, while the metastases march steadily on.

In carcinoma of the cervix uteri, the glands that occupy our attention are the pelvic glands. Fortunately these are in a bony pocket, and are of easy access to the rays of radium. The first series of thorough radium radiation will act lethally on the cancer cells that have been carried to these glands. It is advisable in these cases to give another series of treatments in from four to six weeks, that we may be as sure as is humanly possible that all cancer cells are destroyed.

As a rule, if there is no breaking down of superficial tissue in the initial lesion, there is no glandular involvement seen or palpated. Whether at a much earlier date cancer cells have outwandered from the initial lesion into the lymph channel and located in glands, we do not know, but it is very probable that such is the case.

In the great majority of cases, metastases occur on the side of the initial lesion, but occasionally a metastasis is found on the opposite side. The cancer cells have apparently passed through the lymph system and have come to a halt at some distance, before finding a host to their liking. This is problematical, and is a theory, but as there are many theories regarding the cancer problem extant, I may be permitted one.

It has been my conceit to liken the lymphatic system as a carrier of cancer cells to a railroad system. A freight train starts from the main shipping point. It may pass through several towns without stopping, or it may stop at the first town and switch off one or more cars. The cars may lie on the siding for some time before the consignee makes use of the goods in the cars. The train may go to the end of the division before any more cars are switched off, or it may stop at every station. At some of the stations the cars are opened at once and the contents made use of, while at others some time elapses before the car is opened. Now for the application of the simile. Some cells may be deposited in the glands near the lesion and remain latent for a time, while in other cases, activity is at once seen. This activity or absence of the same, I conceive to be due to the character of the host. Sometimes the outwandering cancer cells will be deposited in consecutive glands of a chain and commence mitosis at once. This is without doubt due to the absence of a certain resisting power, that is evident in some glands and not in others. When we know what constitutes this resistance in the human economy, when we have learned to develop and maintain it by outside agents, then we are on the right track for the cure of cancer. Various serums and agents to incite another form of inflammation have been tried but have failed. Much has been claimed for Cooley's fluid, but the only one who seems to have good results is the originator.

Is it possible that the proper administration of some of the ductless glands may produce a distinct resisting effect in the tissue. I have thought that by the administration of thyroid extract in cancer cases being treated with radium, the resisting power of the tissues and the general health of the patient was improved. I have no scientific proof, but only clinical evidence that this is so, and it is suggested for your consideration and comment. I know that this idea of fortifying the tissues against cancer invasion is not new, and many are the treatments and methods that have been given. Dr. Buckley of New York believes in an almost starvation plan, rice being the principal article of sustenance. Others believe in feeding to the limit. Of the two, give me the latter. We now come to the treatment of secondary malignant glands, or in other words, metastases.

I have seen the submaxillary, sublingual and entire cervical chain of glands removed, without producing the desired effect, that is, the end of cancer cell invasion. I have seen the entire breast removed, with both pectorals, together with the axillary glands, with recurrence within three months. And because of these untoward results, I think the majority approach the axillary cavity with fear and trembling.

I do not wish to be misunderstood, and cause you to think that my stand is definitely against the knife. The latter has its distinct place as I

will explain later. We know that when the knife is used in removing cancer glands, the mouths of the lymphatics are opened, and every chance given to the outwandering cells. Even the cautery knife is not enough of a safeguard. The heat produced is only superficial, and too temporary to produce a permanent obliteration of the lymph channels, and is not sufficient to kill any "left over" cells at the time of the operation. Therefore if we decided to remove the malignant gland with the knife, is it not wise to look about us for some agent that will indisputably close the mouths of the lymph trunks, before the knife enters the tissues. We are quite sure that in radium we have this agent. Within ten days after the radium has been introduced in or near the lymph trunks, the lumen has been closed by the same physiological process as the closing of the small arteries and arterioles by an obliterative endarteritis. At this time it is permissible to remove the gland or glands by the knife.

Boggs (paper read before Roentgen Ray Society of Central Pennsylvania, Altoona, Pa., October 29, 1921), inserts his needles in the breast in mammary cancer in such a manner that the several lymph trunks will become obliterated, after which the surgeon enters the field. He is of the belief that after the lymph channels are closed, the possibility of metastases is removed, and again the action of the radium on the cancer cells in the tumor mass has been lethal. I can recommend this procedure without reservation. If radium does have the action above described, and we know that it does, might it not be considered fatuous to attempt mechanical removal after the real work has been done? In making this statement I know full well that I will be considered a heretic, but as I have made the plunge, I might as well swim clear across, and say that it is my belief that in the next five years there will not be one-half the number of breast cancers removed by the knife, and less than that percentage of malignant glands of the neck removed by the same instrument. If, however, the breast is to be removed by the surgeon, do not open the axilla. I am sure you can remember the great number of recurrences, in the cases where you have done this. If there is evidence of metastases in the axillary glands, no better therapy can be suggested than the sinking of radium needles into the substance of the glands.

In the treatment of carcinoma of the side or base of the tongue, the initial lesion should of course have first attention, and, incidentally, in applying radium to this organ, the best results follow the sinking of needles in the diseased area. After this, if the submaxillary gland is at all involved, and if the involvement be detected by palpation, radium needles should be sunk in the substance of the gland. The same treatment should be given the sublingual. But even if there is no evidence of gland involvement, it is imperative that the submaxillary, sublingual and cervical chain receive radiation by the application of radium packs, sufficiently elevated above the skin to minimize a severe skin reaction.

Since I have been following this plan, I have been gratified with the lessened number of gland metastases, and in the cases where the gland is already involved the introduction of needles has caused cessation of activity in the individual glands.

Of course when the base of the tongue is involved the deep glands surrounding the upper respiratory tract have been invaded and because of the situation of these glands it is difficult if not impossible, in the majority of cases, to bring radium in contact with these diseased glands. I utilize heavy packs in attacking these deep glands, elevated above the skin. The prognosis is never good in these cases.

In vaginal carcinoma, the inguinal glands are the first involved. Some good can be accomplished by inserting radium needles in the palpable glands, which are those at the surface, but we cannot reach the deep glands in this way, and are compelled to depend on x-ray with the hope that the penetration will be deep enough to act lethally on the glands in the deeper structures.

It is hardly necessary to say that early recognition of not only the initial lesion, as well as the glandular involvement, makes for a satisfactory ending of the case.

I realize that some of my statements have seemed definite and final. I do not wish to convey the impression that carcinoma invading the glands is a simple matter. On the contrary, it is very grave. But I do wish to impress on you that the proper use of radium at the earliest possible moment will materially lessen our mortality rate.

THE INFLUENCE OF COMPLEMENT UPON THE SCHICK REACTION AND UPON THE UNTOWARD SYMPTOMS OCCURRING DURING T-A IMMUNIZATION

FERDINAND HERB, M.D.

CHICAGO

In 1913 Schick[1] taught us that we can determine by a simple test whether or not a child is susceptible to diphtheria. This simple test consists of the intradermal injection of diphtheria toxins. If the child is susceptible, inflammatory conditions develop at the site of the injection and the test is called "positive." If the child is not susceptible, no inflammatory conditions develop at the site of the injection and the test is called "negative."

During the ever increasing practical application of this test as well as during the attempts to immunize those found susceptible with toxin-antitoxin (T-A) mixtures, many strange phenomena have been observed that have so far eluded all attempts at explanation. In consequence, progress has ben greatly delayed. Indeed, it seems as if a definite standstill has been reached.

It is the object of this paper to show the way out of this difficulty and to stimulate further research and practical advancement by giving a clear conception of the biologic phenomena upon which the variations of the Schick reaction and of the untoward symptoms occurring during T-A immunization are based.

One of the most perplexing clinical and expermiental findings encountered during the pursuit to find ways and means to eradicate diphtheria is the great variation in the so-called "sensitiveness" to diphtheria toxins. This variation is especially conspicuous when working with different animal species. Thus, Behring found that T-A mixtures, perfectly harmless to guinea pigs, cause severe reactions, local and constitutional, in the ass. Still more sensitive proved monkeys. They died of diphtheria poisoning after several inoculations of mixtures that were even many times overneutralized.

As the development of active immunity by the inoculation of T-A mixtures came into vogue, it soon became apparent that the same tendency to variations, though less pronounced, exists also among different individuals of the same species, in this instance, among children. While most of them suffer no inconvenience whatsoever from the injection of a properly prepared T-A mixture, some react more or less severely upon the application of the same material.

The utter inability to get at the facts upon which this clinical variation of the sensitiveness to diphtheria toxins rests has proved a great stumbling block. Of course, attempts at explanation have been made, but with little success. The Vienna school, for instance, has attributed these reactions to a "hypersensitiveness" of the tissues of those who reacted. But as hypersensitiveness means nothing definite and is but a vague expression of something intangible, nothing is gained by this explanation. It simply substitutes one sphinx for another sphinx.

Just as indefinite is the explanation of others, for instance of Bessau and Opitz. They think that these variations are due to endotoxins. However, as there is at present a total lack of information in regard to the origin and nature of these supposed "endotoxins," this conception explains no more than the other. It, too, substitutes one sphinx for another sphinx.

Under such circumstances and with practically no lead, there is but small hope to evolve a plausible explanation unless we start our investigation at the very bottom and consider, first, in detail the three factors that are involved in all immunity reactions, the Schick reaction and the T-A immunization included. These three factors are: 1, the antigen, in this instance called "toxins," 2, the antibodies, in this instance called "antitoxins," 3, the complement.

The first of these three factors, namely, the diphtheria toxins, have been considered at length in one of my previous papers.[2] To avoid unnecessary repetition, I will give here, therefore, only a summary of my former deductions and refer for details to this paper.

As diphtheria toxins immunize children and immunization cannot be produced unless the body cells come into contact with specific diphtheritic antigen, such specific diphtheritic antigen must be contained in the diphtheria toxins. Specific diphtheritic antigen can be made up only of two substances: the body substance of diphtheria bacilli or their still specific split products. As the toxins pass through porcelain fil-

ters that will not permit the passage of the large, unbroken diphtheria molecule, the specific antigen of the diphtheria toxins must consist of split products originating from the bodies of diphtheria bacilli that have died and disintegrated in the culture.

In sharp contrast to this deduction is the opinion of Dr. Simon Flexner, of New York. He states that diphtheria toxins "are secreted by living bacilli." This opinion of Flexner is here adduced, first, because of the prominence of its author and, second, because of the fact that it is supported by the Council on Pharmacy and Chemistry of the American Medical Association. Nevertheless, it is untenable. It presupposes that living, healthy bacilli secrete their own specific body substance. Such a thing is unknown in Nature; it is impossible and unthinkable, as it is incompatible with life.

Poisons of the nature of diphtheritic toxins are disposed of in the animal economy by being broken down into simpler, non-poisonous fragments. Victor C. Vaughan[3] has shown this conclusively. Outside the body, this breaking down of poisons may be accomplished by ferments, or by chemicals, or by heat. For instance, diphtheria toxins, if heated to 75 C. for 10 minutes, lose entirely their poisonous character. Within the body, this breaking down of poisons is accomplished only by ferments, which, in the blood, are known as antibodies.

These specific ferments, or antibodies, are the second factor to be considered. In the case of diphtheria, they are identical with the so-called "antitoxins." The experimental and clinical proofs to uphold this statement have been furnished in my aforementioned paper.[2] Antitoxins, as Dr. Simon Flexner states, that "neutralize liberated poisons, but do not act upon the bacilli themselves" do not exist. I fully realize that I, at present, stand alone in this intrepretation of antitoxins, with the entire formidable array of the world's medical authorities against me; and I feel my isolation. But I also feel that I stand firmly and safely upon the solid rock of incontrovertible experimental and clinical evidence. The antitoxin theory with all its ramifications is a gigantic fallacy. It is the most disastrous trap in which an unaware medical world has ever been caught. Even Behring admitted numerous exceptions and Ehrlich, with all his ingenuity, failed dismally in trying to explain this unexplainable doctrine. Antitoxins differ in no way from other specific ferments, or antibodies. As soon as this fact is realized and conceded by the profession at large, a long array of heretofore unexplainable clinical and experimental phenomena will at once become simple of explanation. The world will greatly benefit by this change of attitude and progress will be possible in many lines of medical endeavor, where bewilderment and stagnation reign today.

The activity of ferments, or antibodies, is dependent upon the presence of another substance, called "complement." It is the third factor that concerns us here. Without it, biologic processes, such as the Schick reaction and T-A immunization, are impossible, as ferments alone are totally inert and incapable of action. This now universally conceded fact has heretofore found appreciation only in the laboratory. From a clinical standpoint, it is altogether unknown to the vast majority of physicians. Nevertheless, it is very frequently the factor that decides the issue of health or sickness, of life or death.

To fully command this difficut situation, we need a clear conception of the relative position of the ferment towards its complement. In a more detailed description elsewhere,[4] I have likened the ferment to the laborer and the complement to his mechanical tools, designating it is the chemical tool of the ferment. For the sake of clearness, let us here go one step further and compare the complement with a charge of dynamite. As the laborer, bent upon clearing wild land, can blow up one stump after the other, so the ferment can disrupt one molecule of food, or antigen, after the other. But as a charge of dynamite is used up and no longer exists as such after the explosion and must be replaced anew for each following stump, so a definite quantity of complement is used up during the disruption of a molecule and must be replenished continually to keep the ferment active, whether it is killing microbes or disintegrating their poisonous split products into simpler, non-poisonous fragments.

Dropping, thus, the calamitous antitoxin theory, the explanation of the variations of the Schick reaction and of the untoward symptoms occurring during T-A immunization is now readily accomplished on the basis of the above

given facts and becomes a simple problem of arithmetics.

Beginning with the T-A immunization we have the following three equations:

poisons vs. antibodies + plenty of complement = no symptoms.

poisons vs. antibodies + scarcity of complement = symptoms (local or constitutional).

poisons vs. antiobdies + insufficiency of complement = death.

In these three equations, the poisons (specific diphtheritic toxins) and the antibodies (specific ferments=antitoxins) are known factors, as they can be regulated at will. The only variant is the complement, as it is furnished by the body and, as yet, beyond our control.

The conditions represented in the first equation are given in the case of the guinea pig, when inoculated with diphtheritic toxins neutralized with a sufficient quantity of antitoxin. There are no symptoms because the specific ferments of the antitoxin, with the aid of the now available abundant supply of complement which the pig is known to possess, break down the toxins into non-poisonous fragments before the body cells have time to react. In the ass, the conditions represented in the second equation are given. The ass has much less natural complement. Its local supply at the site of the injection is not sufficient for the destruction of all inoculated poisons. Consequently, the toxins that are left unaltered after the consumption of the local supply of complement cause a local inflammation and, by partly reaching the blood stream, also induce constitutional symptoms. The animal ultimately survives because the specific ferments of the antitoxin gradually break down the rest of the poisons with the aid of the complement later on furnished by the blood stream and the tissues. The conditions represented in the third equation, finally, are given in the case of the monkeys. They die after several injections of overneutralized doses of toxins because the moment their relatively small amount of natural complement is consumed the specific ferments of the antitoxin become inert. The remaining toxins, left unaltered, exert their poisonous influence and the animal succumbs in spite of any number of antitoxins that may have been injected. The death of these monkeys is on par with the destruction of horses, as reported by Behring and other observers, that perish at the height of immunization after the injection of more than ten lethal, though many times overneutralized, doses of toxins. The disintegration of about ten lethal doses of toxins exhausts the available supply of complement. If more toxin is injected, it remains unaltered and will kill in spite of the presence of the enormous numbers of free, potentially active antitoxins that have been found to exist. The same lack of complement also explains the well known clinical experience that no additional injection of antitoxin will save the life of the child if the first, sufficiently large, inoculation did not do so.

Thus, the riddle of the sphinx is solved and the elusive "hypersensitiveness," stripped of its mysteries, emerges as a simple lack of complement.

In the instance of the Schick reaction, the conditions are not quite so simple, as two variants are here in the equation: the antibodies and the complement. Each of the two may be at fault, as we see later.

The negative Schick reaction is represented in the first equation. There are no symptoms because sufficient natural antibodies (antitoxins) plus complement are already in the body to break down the injected specific antigen (diphtheritic toxins) into non-poisonous fragments before the tissues can react.

Among the positive Schick reactions there are three variations: the true positive reaction, the pseudoreaction and the positive combined reaction. Each has its own characteristic clinical symptoms, and each rests upon a different pathological basis.

In giving now the characteristic clinical symptoms of the three different reactions I follow closely the description of Dr. Abraham Zingher,[5] of the New York Health Department, omitting only what is non-essential.

For the interpretation of the test, it is important to remember that the positive reaction represents the action of an irritant toxin on unprotected cells. A trace of redness appears slowly at the site of the injection in from 12 to 24 hours, and usually a distinct reaction in the course of 24 to 48 hours. The reaction reaches its height on the third or fourth day and gradually disappears, leaving a definite circumscribed scaling area of brownish pigmentation, which persists from three to six weeks. At the height, the positive reaction consists of a circumscribed area of redness and slight infiltration which measures from 1 to 2.5 cm. in diameter. In the negative reaction

the skin remains normal. In the pseudoreaction, the reaction is of an urticarial nature, appears early, within 6 to 18 hours, reaches its height in 36 to 48 hours, and disappears on the third or fourth day, leaving no pigmentation, or only a poorly defined, small brownish spot. At its height the pseudoreaction shows varying degrees of infiltration, and appears as a small central area of dusky redness, with a secondary areola, which gradually shades off into the surrounding skin. A control test may be made by injecting into the other forearm in the same dilution diphtheria toxin which has been either heated to 75 C. for 5 minutes to destroy the soluble toxin, or has been overneutralized by the addition of antitoxin. We must conclude that it is the protein of the autolyzed diphtheria bacilli which is the active agent. Similar and even more intensive pseudoreactions may be obtained with a dilution of an autolysate of diphtheria bacilli, which contains no treace of soluble toxin.

Occasionally one sees a combined reaction which represents both a positive and a pseudoreaction. The central area of redness is larger and better defined; the amount of infiltration is also more marked.

At first, it may seem impossible to evolve a definite pathological basis for the varying symptoms of each of the three different reactions. But a glance at the second equation will furnish it at once. Symptoms, local or constitutional, may be caused 1, by a lack of antibodies=true positive reaction, 2, by a lack of complement= pseudoreaction, 3, by a lack of both simultaneously=positive combined reaction.

That the true positive reaction is caused by a lack of antibodies (antitoxin) is common knowledge. Proof is furnished by the fact that with the development of antibodies (antitoxin) in consequence of T-A immunization, the test becomes negative.

Proof, however, is required to show that the pseudoreaction is due to lack of complement. To adduce this proof, I wish to point to the following facts: Pseudoreactions appear principally in older children and in adults, who present only comparatively few true reactions and, thus, show that they are protected by natural antitoxin. Second, many of those who present pseudoreactions have been found to possess large quantities of antitoxin in their serum. Third, pseudoreactions can be produced with solutions of toxin that are overneutralized with antitoxin. Lack of antibodies is, therefore, not the cause of pseudoreactions. This leaves only a lack of complement as the underlying basis.

Do the clinical phenomena tally with this explanation? We will find that they do. In the true positive reaction, the development of symptoms is comparatively slow. They do not reach their height until the third or fourth day because it takes time to develop specific ferments (antitoxin). In the pseudoreaction, the symptoms come more quickly. They reach their height within 36 to 48 hours because the ferments are there and ready to act. They split the specific antigen, that is, Zingher's protein of autolyzed diphtheria bacilli, into fragments quick enough, but cannot complete the reaction at once, as the local complement is lacking. Consequently, poisonous split products develop and persist long enough to produce local irritation and inflammation. The pseudoreaction is ordinarily stronger (urticarial) than the true positive reaction because the large number of ferments usually present produce in the same time more poisons than the slowly developing few ferments that cause the true positive reaction. And, finally, the pseudoreaction runs a quicker course because the necessary complement comes forth from the blood stream and the tissues much quicker than antibodies (antitoxins) can be developed to complete the reaction.

Additional proof is furnished by the following clinical observations made by Zingher: "As a rule those children who had given a simple positive Schick reaction showed very little local disturbance. On the other hand, children who had had a positive combined reaction presented considerable local redness, swelling and tenderness at the arm at the site of the injection and varying degrees of constitutional disturbances."

Such increased "sensitiveness" in the case of positive combined reactions is not at all surprising and is but the natural consequence of the coexisting scarcity of complement. The conditions are similar to those in the ass, as described above.

Then Zingher continues: "It is interesting to note that there is a much higher proportion of pseudoreactors among the immunes, than there is of positive combined reactors among the non-immunes. We can, therefore, assume that the repeated exposures to infection with diphtheria bacillus brings about not only an antitoxic immunity, but also a hypersensitiveness of certain predisposed individuals to diphtheria bacillus protein. The development of this hypersensitiveness renders the cells of the epider-

mis of the pseudoreactors anaphylactic to the autolzed protein of the diphtheria bacillus, which is present in the test solution."

This paragraph is a fair example of the utter embarrassment into which the antitoxin theory has engulfed us by befogging the mind of man and successfully concealing the truth behind a screen of a dense cloud of black smoke. Conditions, however, become at once clear and readily understood as soon as we translate Zingher's explanation into the anti-antitoxin language, which would read as follows: We can, therefore, assume that the repeated exposures to infection with diphtheria bacillus brings about not only the development of specific diphtheritic antibodies, but also leads to a partial exhaustion of complement in certain predisposed individuals. This exhaustion of complement manifests itself locally for reasons stated above by the appearance of the pseudoreaction at the site of the inoculation of the autolyzed protein of the diphtheria bacillus, which is present in the test solution.

The blending of the symptoms of the true positive reaction with those of the pseudoreaction in the positive combined reaction shows that the developing bodies do not find the necessary complement to act and are delayed in the performance of their work. Consequently, the symptoms of both reactions appear simultaneously.

At this juncture, an unexpected and rather startling development presents itself. The analysis as to the ultimate causes of the clinical variations of the different Schick reactions forcibly impresses upon us the probability that ready poisons are not contained in the so-called "diphtheritic toxins." They are present only as "toxogens." As toxogens I define the "Vorstufe" of the toxins, that is, the disrupted body substance of diphtheria bacilli that have not as yet been broken down far enough to produce toxic fragments. This conclusion is suggested by the peculiar fact that the toxic symptoms of the true positive reaction come more slowly and later than those of the pseudoreaction. If free toxins were present in the solution, the reverse should be true. As it is, toxic fragments or poisons are first developed by the action of the ferments (antitoxins). This fact is conspicuous in the pseudoreaction, as the control fluid contains only the unbroken molecules of the autolyed bacterial bodies and, as Zingher emphatically affirms, "no trace of soluble toxins." Nevertheless, its symptoms appear quicker, proving definitely that the poisons, when once developed, act at once, and that the slowly and successively developing inflammation of the true positive reaction can only be due to a slow and successive development of the poisons by the gradually developing antibodies.

This new disclosure gives another body blow to the antitoxin theory. How can antitoxins neutralize toxins that do not exist? It also refutes anew the statement of Dr. Simon Flexner that the diphtheritic poisons are secreted by living bacilli. How can they be secreted by living bacilli if they need the action of specific ferments and of complement to come into existence?

These two questions are added to the many others that must be answered by those who care to defend the antitoxin theory.

Comment. The appreciation of the role thus played by complement in the production of the Schick reactions and of the untoward symptoms occuring during T-A immunization, is not only of scientific but also of immensely practical importance. It opens up a new field for therapeutic activity in the treatment and prophylaxis of diphtheria second to none. While it is true that in the case of sickness we have to deal with three variants in the equation, conditions are not so difficult to analyze as they seem to be. With the elaboration of the antidiphtheritic serum Behring took the hazard out of the second factor by enabling us to supply to the ailing child the needed specific ferments in any number required. The determination of the exact chemical composition of the complement will take the hazard out of the third factor. Ferments plus complement, again, completely control the first factor, the diphtheritic poisons. With the complement found, they no longer constitute the menace they are today. Eradication of diphtheria comes, then, within the easy grasp of man and no child should die thereafter of this scourge unless death already casts its shadow upon the victim before proper treatment is instituted. The pessimistic view of Cummings[6] that "the mortality rate would seem to have reached its irreducible min-

imum" is no longer justified, as the road to travel is now clearly marked.

To find the exact composition of the complement is the urgent task before us. It is not difficult to accomplish and within reach of those who have the necessary equipment at their disposal.

The search for the complement required to combat diphtheria once begun, we have started on the road that leads us to the only rational treatment of infectious diseases. I am fully convinced that a successful battle against not only the acute infections, such as diphtheria, but also against those of essentially chronic character, such as syphilis in all its stages, will, then, become not only a possibility, but a probability, if not a certainty.

CONCLUSIONS

1. The so-called "diphtheritic toxins" derive their specific antigen from the body substance of diphtheria bacilli that have died and disintegrated in the culture.

2. Antitoxins are ordinary specific ferments and require complement for their action.

3. Hypersensitiveness to diphtheria toxins is due to lack of complement.

4. The true positive Schick reaction is due to lack of specific ferments.

5. The pseudoreaction is due to lack of complement.

6. The positive combined reaction is due to lack of ferments plus lack of complement.

7. Free poisons are not contained in diphtheria toxins, but only toxogens.

8. Supplying specific ferments plus their complement constitutes the most ideal and most successful specific treatment of infectious diseases.

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30 North Michigan Boulevard.

FAD OF REPLACING THE UTERUS

The multitude of pessaries, intra-uterine and vaginal, which marked the displacement era of sixty years ago, have almost all disappeared into museums as antiquities or curiosities, and now the ring is almost the only survivor. In the surgical area through which we are now passing, the modern counterpart of the pessary inventor is the deviser of suspensory and sling operations on the uterus. The woman with a uterus that will not sit up straight can have a tuck taken in its round ligaments, or have it held up by the ligaments being stitched to the abdominal wall, or delicately supported by the ligaments being clasped behind its back, and so on ad infinitum. The attitude of mind of these suspenders of the uterus is precisely that of the mid-Victorian pessary-monger; their methods only have changed with the times, and these operations are quite as much overdone as the pessaries were, but do less harm. There is not the bad mental effect of continuous pessary wearing with the recurrent need for changing, and there is the advantage that the patient has two or three weeks in bed with a change and convalescence, together with the strong suggestion that now the errant womb has been made right, she also ought to be right.—J. S. Fairbairn, Brit. M. J., 1:587 (April) 1922.

WHY

[*THE WAIL OF AN EXASPERATED BUT LOYAL M. D.]

Oh, when from his nostrums and medical fakes
The "patent" man's fortune immense is,
Oh, what in the world is the reason it takes
Every cent I collect for expenses?

Oh, when the gudewife of the opulent quack
Her satins and silks is parading,
Oh, why has my wife but two gowns for her back,
And the best of them dingy and fading?

Oh, when the brigades of fibromatous folk
Are swelling the cancer quack's coffers,
Oh, why am I thankful in caustic to soak
Some verruca that accident offers?

Oh, when, before deigning his patients to ease
His fee in advance the quack collars,
Oh, why do I have, when a patient I seize,
Such a long, weary chase for my dollars?

Oh, when yon galenical humbugs galore
Stroll gaily through rose-fragrant places,
Oh, why do I wander, all worn and foot-sore,
In a desert that has no oasis?

*
* *

Because in the days of my youth I was taught
A principle timely and healthy,
And for quackdom's success I've no envious thought.
For I'd rather be honest than wealthy.

Tommy Dod.—The Medical Age.

ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society under the direction of the Publication Committee of the Council.

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Subscription price of this Journal to persons not members of the Illinois State Medical Society is $3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. $3.50 per year for all foreign countries included in the postal union. Canada, $3.25. Single current copies, 35 cents. Back numbers, after three months from date of publication, 50 cents.

SEPTEMBER, 1922

Editorial

A POLITICAL POWER IF ORGANIZED

There are in round numbers 142,000 physicians, 43,000 dentists and 45,000 drug stores in the United States. In the latter instance there are probably three druggists to every drug store making a total of 100,000 druggists. These professions if properly organized and working cohesively can be made the greatest factor for good in the country. No legislation inimical to the best interests of the public and the professions named could be placed on the statute books with this organization working coherently. Not a home in the State or Nation that is not reached by some Doctor during the course of the year; perhaps not an individual in the Nation who is not met face to face and engaged in personal conversation by one of the three professions in the course of the year.

What a power if organized would be the doctors, dentists and druggists of the United States in combating medicinizing socialization schemes, schemes for health centres, clinics, compensation laws, health insurance, Sheppard-Towner Maternity Acts and in heading off Federal interference in medical practice by such menaces as the regrettable maternity bill and the other fifty seven varieties of attempts to bring about State Medicine.

PAID REFORMER BECOMES LAW BREAKER UNDER NEW YORK BILL

In the recent New York Assembly, Assemblyman F. L. Kackenburg of New York introduced into the legislature a bill the object of which was to rid the State of the paid professional reformers. The measure provided for a new section to the penal law to define "hypocrisy." Under the definition it would be a misdemeanor for persons to support any legislation calculated to infringe upon and restrain the free exercise of personal liberty, for pay or gifts or in anticipation of any reward.

There are a lot of people in this world who spend all their time and overtax their mentality trying to get laws passed to prevent other people doing something. If these people gave half as much attention to their own affairs as they do to other people's they would be much happier and more generally respected. Any one who gives proper attention to his own business has no time to give to the other fellow's business.

We are in sympathy with the purport of the

present law. Much of the upset condition of the country is due to the activities of the human parasite who lives off the energies of his fellows and who goes about the world seeing whom he can regulate in one way or another. All this of course is at the expense of the tax payers and usually the agitation is carried on for the express purpose of landing the so-called reformer in a fat job.

THEN WE WILL KNOW WHETHER LIFE IS WORTH LIVING

Welcome State Senator Dennis Fleming, of Georgia, to the company of super-regulators. He has introduced a bill which provides that "any and all married men who shall go fishing without the consent of their wives shall be guilty of a felony, and their sentence shall not be less than five or more than twenty years at hard labor." Since the ideal of an increasing number of Americans is a state in which all things are dealt with by law, from red neckties to double negatives, we might as well hurry the movement along and acquire a government under which all citizens are standardized according to size, color of eyes and general deportment—the non-conformists being chloroformed. Then we'll know at once whether life is worth living.

POOR MEDICINE. IT IS SURELY GETTING IT

Glenn Frank broke out again in the August *Century* and refers to practicing physicians as "Physical Wrecking Crews." We note also the other anonymous article in which it is argued that the physician should be subsidiary to the sanitary engineer. Read *Life* in which it takes Dr. Biggs (member of the Rockefeller committee) to task for wanting us to be ruled, measured and examined and classified by the State. Poor Medicine; it is surely getting it.

Our attention is also called to the Rockefeller report taking over the nursing problem by the University of Michigan. Talk about caste! Under it we would have supernurses—then middle class and then proletariat. The super nurses are to rival the physicians in rank—to be teachers and supervisors; but from the report we take it that their chief glory is to lie in handling "health campaigns." This point is much emphasized.

ADVERTISING LOW PRICED LABORATORIES IN THE JOURNAL

To the Editor: In reply to your request as to objections against carrying the advertisements of low fees laboratory in the JOURNAL I would say that "for the good of the service" appears to me a very satisfactory reason.

From what I have seen of their "literature," it appears that they are not seeking business because of the excellence of their work, or attempting to attract patronage through legitimate business inducements, but through "price cutting"—a practice that the modern business world looks on with contempt, no matter in what line it is practiced, and as being conducive only to degeneration and the production of inferior quality instead of permitting that progress and increased benefits to the "consumer" which a fair remuneration would allow.

When we are attempting to raise the status of the medical profession, including that of such as attempt to work in pathology, I believe it to be a poor policy to admit anyone to advertising privileges whose plan of action is not one leading toward betterment of the physicians' standing, or that is not helpful in making more certain the restoration of the sick to health.

The argument that a patient afflicted with syphilis cannot afford to pay a fair and legitimate fee, permitting of proper working conditions and sufficient attention given to each test, and also a proper remuneration (not merely a "living wage") to individuals who have been required to make the sacrifices which every really competent worker in this line must make to attain that standard of proficiency which we deem essential, is, in plain American, all *"bull."*

Having been in general practice for about ten years in a middle to low class neighborhood, I know the financial ability of the average patient and know the charges exacted from him for other medical services. I have also been in laboratory practice sufficiently long—nearly a quarter of a century—to know that while half of the Doctors chronically cry that "my patients cannot afford to pay such high (!) prices," a large proportion are quite ready and even ask you to tack on an additional fee and rob the patient for their benefit. When it is a question of the attending physician getting more money than his personal services entitle him to, it is wonderful how easily pa-

tients are able to "afford" the extra charge. I am also sure that in many cases where physicians send Wassermanns to the laboratories or others operating at even less cost, the patient pays the full regular fee. Furthermore, it is less frequently the patient who questions or complains about laboratory charges than the Doctor. It is the Doctor who teaches the patient to complain about perfectly legitimate charges—and then they wonder at the unwillingness of patients to pay them.

There is no necessity for a lower fee than has become standard for this test. Those unable to pay for the test, and many that can, have the work done gratis at our many colleges and other clinics. For those that do pay all the way through, the total expense of all the Wassermanns required in the treatment of any case of syphilis, is a mere bagatelle in comparison with the fees the Doctor who is treating the case gets.

Having made Wassermanns since Wassermanns first began, I know pretty much about the various methods that may be used. I also know that as the situation is, there are many, many Wassermann reports turned out every day that are not worth the paper they are written on and, surely, lowering prices will not make conditions better. There will be no inducement for those who are really competent to take up the work, but it will be left to a lot of cheap "technicians." Several years ago, as you probably know, we started reporting the results of the test as made with two antigens, a procedure which has since been adopted by a fair number of other high class institutions; but our reports are actually based on the findings of at least NINE different tests. Now, we do not make this large number of tests to kill time, or to make a long job out of what should really be a short one, but because our experience has taught us the difficulties and possible fallacies of the test and that errors cannot be properly guarded against unless we do make all these tests. Of course, those who sell Wassermanns for less than the standard price, cannot afford to do this and, therefore, take risks which we would not—but then, it was ever true, that "fools rush in where angels fear to tread."

"Price Cutting," just as sure as day follows night, can only and does always result in inferior quality. While, some laboratories do not attempt to do much else than Wassermanns and a few minor examinations in other lines, we have run up against "price cutters" in Basal Metabolism tests. They make such examinations for $10.00 and, I was told, could run four in an hour. We charge $15.00 and, many times, it takes me *one* to *two* hours to satisfactorily complete *one*. Here, too, we recognize the possible fallacies and take time to make certain they are eliminated.

For the benefit of the practitioner, his patients and those of us who are trying to do real scientific work, I believe it would be most desirable to exclude the advertisements of the Cut Price Laboratories from the ILLINOIS MEDICAL JOURNAL.

CULTS CAN SIGN DEATH CERTIFICATES IN ILLINOIS, SO SAYS THE ATTORNEY GENERAL

The Attorney General of Illinois has given the Director of Public Health the following opinion:

Dear Sir:

I have your letter of July 6 and in reply will say that one who holds a license to practice "any system or method of treating human ailments without the use of drugs or medicines and without operative surgery" in Illinois may legally sign the death certificate for any patient who dies while under his care. *People v. Simon,* 278 Ill. 256. Such a person may not legally sign a certificate of birth or stillbirth unless he or she has also been licensed to practice medicine and surgery in all their branches or to practice midwifery.

One who is neither licensed to practice medicine in all its branches, nor to practice without the use of drugs or operative surgery may not lawfully sign a certificate of death.

One who is neither licensed to practice medicine in all their branches, nor to practice midwifery may not legally sign a birth certificate or still birth certificate as attending physician or midwife.

Your understanding is correct that the decisions of this office relative to osteopaths signing birth or death certificates applies also to licensed chiropractors and to all other persons who are licensed to treat human ailments without the use of drugs or operative surgery.

In accordance with the provisions of section 25 of the Medical Practice Act of 1917, when an osteopathic practitioner, chiropractor, or other

persons licensed to practice without the use of drugs or surgical operations signs a certificate of death, he should affix to his signature a prefix or suffix indicating the school of system or practice in which he is licensed to practice.

There is now pending in the Supreme Court the case of *People* v. *Schaeffer,* in which the contention is made by the appellant that the Medical Practice Act of 1917 is void *in toto* because of the decision of the Supreme Court in the case of *People* v. *Love,* 298 Ill. 304. The constitutionality of the Medical Practice Act of 1899 is also attacked in that case. On the other hand, it is the contention of the State that the effect of the decision in *People* v. *Love* is not to render the entire Act of 1917 invalid or unconstitutional, but only that part of section 5 relating to the qualifications required and the licensing of chiropractors, and that the Medical Practice Act of 1899, if in force, is not unconstitutional.

What is said above, therefore, is predicated upon the assumption that the 1917 Act is in force, with the exception of that part of section 5 above noted, and that if the same is not in force that the Act of 1899 is constitutional.

THE HEALTH DEPARTMENT AND THE VENEREAL PROBLEM. IF THE CHICAGO HEALTH DEPARTMENT WANTS VENEREALLY CLEAN CITY WOULD IT BE FEASIBLE TO BLANKET THE MUNICIPALITY WITH A STRICT PLAGUE QUARANTINE?

A large portion of the population of the city of Chicago is appalled at a recent doctrine exploited by the Chicago Commissioner of Public Health. Unless this earnest physician has been misquoted and misrepresented sadly, this new doctrinism will result in making commercialized vice safe from the consequence of venereal disease.

The tenets embrace a recommended installation of vending apparatus in brothels, public comfort stations, drug stores and similar general resorts, from which machines and by automatic, impersonal service and at a nominal price, men or women, can secure "prophylactic outfits" that will grant a disease free excursion along the primrose paths of pleasure. This suggestion in a large measure is most revolting, especially when it is elaborated upon to the effect that the price a man pays for service in a brothel should be made to include a prophylactic kit.

The plan details further that the divekeepers should have "the women inmates instruct men in the use of the sets." Truly the day of the mercury fountains and public needles at every corner must be just in sight.

That the army and navy used these safety first kits during the war is small defense for any high minded physician's attempt to aid an entire citizenry to bend beneath the wand of Priapus.

If promiscuous sex-indulgence is made disease-free, then naturally enough the next step will be to make promiscuous sex-indulgence free from conceptions. This latter result might be accomplished by furnishing contraceptive devices either in the same packet with the antivenereal layouts or in a sister slot-machine.

Meanwhile the sane contingent, both medical and lay, sit and shiver and ask, "What next?"

Undoubtedly Dr. Herman N. Bundesen, Chicago's Health Commissioner, has the welfare of his municipality at heart when he seeks to rid Chicago of the protean pestilences of syphilis and gonorrhea. Chicago was freed from milk and water borne diseases by Dr. Bundesen's predecessors who have safeguarded the milk supply, chlorinated the lake water and laid a foundation for a local stranglehold on tuberculosis. So it is up to Dr. Bundesen, too, to make a record, to hold up his end and to hit the bull's eye as has been done by those who have gone before. Dr. Bundesen has chosen well when he sets out, as he has been quoted, to "drag the snake syphilis out of the bushes and beat its head off."

But in the very beginning of this task of cleaning up the Augean stables of uncontrolled desire, Dr. Bundesen strikes a snag. He has to get without the law to do his cleaning up. As some of his campaign ideas are directly against the present statutes he may have to have some new ones made. For example, Section 57 of the Criminal Code of the State of Illinois sets forth:

"Whoever keeps or maintains a house of ill-fame . . . shall be fined not exceeding $200."

Now at the outset, Dr. Bundesen admits that if he knows of a house of ill-repute he is not going to report it to the police, or try to have it closed up, or anything so basically destructive as that, for his venereal disease campaign calls for the Health Department of the City of Chicago

to get out and sit in council with the keepers of such houses and their inmates. This is admitted in the issue of the *Chicago Tribune* for Tuesday, August 15, 1922, wherein was printed an article in which Dr. Bundesen, in explaining his plans, said unmistakeably that he had already consulted with several keepers of brothels in regard to securing their co-operation with the health department campaign. An excerpt from the article will not be amiss:

"Direct and incisive measures to curb social diseases, including free examination and supervisory treatment of men and women at health department laboratories, were announced yesterday by Dr. Herman N. Bundesen, health commissioner. . . . The commissioner's plans involve a frank admission that there has always been vice in the world and the probability is that it will continue to be for some time. He therefore proposes to deal with this condition 'as is.'" Continuing the article proceeds "The war demonstrated that gonorrhea and syphilis practically can be eliminated by prophylaxis," Dr. Bundesen began in discussing his campaign which already has resulted in conferences with several "vice lords" looking towards *"establishment of relations between the health department and brothels."*

In further direct quotation of the Health Commissioner this same article recites "I am for the establishment of a prophylaxis station in every brothel. I am willing to go farther. I am willing to have the women who work in those places sent to the health department laboratories for examination free of charge. If they can prove that they are under competent medical care they will not be hospitalized. The truth will be told them and the department will see that they get proper treatment. . . . This plan involves no extension of the powers or duties of the health department. It simply means that functions which have been lying dormant will come into action."

The commissioner's idea in treating these women is that he fears that the examinations made by the physicians employed by dive-keepers to "examine them" are both perfunctory and inaccurate, and that the women are so overcharged that as a result "these women must hustle so much the harder, thus infecting many more men, to meet these bills."

The article referred to cites a woman who is said to have come to the commissioner claiming that she had to have $300 to buy her way out of the Lawndale hospital and that when she came out, she was found not to be diseased. Further the doctor adds that a divekeeper told him that "In nine years his doctor never sent back a single woman as diseased. Such examinations are a farce on the face of them when it is known that from forty to fifty per cent of the women taken in raids and examined by my department are afflicted either with syphilis or gonorrhea."

It is interesting to note that keepers of dives carrying from 16 to 50 inmates and even higher are quoted as having had council with Dr. Bundesen. One keeper who claimed that he "had 300 women under his control held a long conference with the health commissioner on Thursday (Ed's note, August 10). This man like many others was afraid that if his women were examined by the health department that they would be sent to the Lawndale hospital for treatment."

"We couldn't stand for that," Dr. Bundesen quotes one man as saying. "Some of my women are married. Their husbands work nights and they go home to their husbands early in the morning. Other girls under my control come in only occasionally to pick up a little extra money. They tell their parents that they are staying over-night with a girl friend. Others work in the daytime and come into my place only for a few hours at night. If any of them were sent to the hospital you can see for yourself what may happen."

The candor of the entire article strikes home squarely into the soul of every man who respects his mother, his wife, or his daughters. Think of young girls being countenanced into going into such places, made even more reckless by the knowledge that they can escape contagion! Truly the lion is about to lie down with the lamb when the men who break the laws of God and man make alliance with the men appointed by the executors of the electoral votes of the nation to carry out the laws. The American nation was founded and built by men and women who had fled the excesses, the petty tyrannies, and the unspeakable oppression of a sated European court. This nation has endured because the common good rather than individual sensuality and its super-gratification were the standards borne by

the citizenry. The home, not the phallic symbol, was the rallying banner. Religionists assert that more people are saved to orthodoxy "by fear of the Lord rather than by love of Him." The same might be said of a citizenry and its relation to that coherence of self restraint and comparative physical annihilation known commonly as sanity. More men have been saved from traffic in houses of ill-fame by fear of contracting the specific ailments maintaining there, than from any especially highminded distaste of such indulgences. Remove this obstacle and what is left? Nothing!

The bars are down. Down with a vengeance, too, when contraceptives are bandied about like ham sandwiches or mustard plasters. And what will come next?

What befell Rome? Athens? What happened to Babylon? To Sodom and Gomorrah? Tyre? "History Repeats Itself." Yes, and with axiomatic irony.

"The physical man needs expression"; "vice has been rampant since man began"—"Sex life is the heart of the world"—all these truisms are so ancient as to be but feeble mouthings when spoken by those who know better. Small wonder the editor of this JOURNAL was besieged by physicians with hundreds of telephone calls to "do something—say something—about this new venerial campaign that makes of medicine the handmaid of the brothel."

The merciless ravages of syphilis and gonorrhea are a needless spendthift waste that few laymen and no physician will dispute. But the health commissioner of Chicago in his stamping out of community lues should remember the processes involved in attacking individual cases of venereal disease. The cure of the mass cannot vary from the cure of the individual. In syphilis intensive and faithful medication bests the 'pale spiral.' In gonorrhea, too, more is needed than some quack dope that fetches a rapid but merely surface healing. And again—does prophylaxis always protect? Is it infallible? If so what is the magic medicament and since when?

Most commendable are the ideas of Chicago's commissioner of health as to cleaning up syphilis and gonorrhea. But again may he be reminded that if he is really "going to fight venereal disease as we would smallpox" that he must be consistent?

If Dr. Bundesen is in earnest about cleaning up venereal disease in Chicago instead of holding out even a quasi-friendly hand to vice in its commercialized branches *why does not Dr. Bundesen quarantine the town?*

If Chicago held today as many cases of smallpox as it does of syphilis and gonorrhea, strict quarantine would be enforced. If syphilis and gonorrhea are going to "be fought as we would fight smallpox" how are we going to do it unless the town is put under such a quarantine? Then, the health department could cure up every afflicted individual among Chicago's several millions of people.

Politically speaking the idea would bear wonderful fruit. Necessarily there would result hundreds of nice fat political jobs, for inspectors and assistants, both lay and professional. Some of those nice friendly "vice lords" who have already sat in consultation with Chicago's health commissioner might be drafted in as emergency deputies and these could go along and help to identify the patrons and the patronized of their palaces of pleasure. Oh, yes, the job could be done up very thoroughly.

By this means Chicago can be made a pasteurized, chlorinated, salvarsanized, mercurialized, sandal-wooded, copaiba-ized, arseniated town that will make the metropolis of Illinois, without exception, the ideal of civilization. This civic virtue could bring trade returns of value. Both human and trade exports and traffic could be stamped "Chicago inspected. Venereally clean."

All imports, both trade and human, would be compelled to bear an equally exquisite stamp. Truly Utopia would exist here on the shores of Lake Michigan. For Dr. Bundesen is right when he says:

"A half million of the 800,000 boys who reach 21 years annually have contracted either gonorrhea or syphilis. By the time they are 28 . . . The cost in dollars and cents to the United States and its citizens, of these two great social diseases, is estimated at $3,000,000,000 per year."

Now the most godlike attribute our frail race of men possess is creative power. Of course Dr. Bundesen remembers this. But has he calculated what the abuse of this gift may mean to the race? Degrade this function; reduce it to a catch-penny indulgence and what means this blasphemy? Whether man's reproductive instincts and powers

are the symbol of an orthodox God or nature's higher self, the debasement thereof is the placing in the gutter of the Ark of the Covenant. It is unspeakable. Not since the Christian era began has there been such reversion into Mohammedanism. The prophet's heaven would seem to be about to be revived on the ruins of the old Twenty-second street district. Two days after the article quoted from had been printed the *Chicago Tribune* published an editorial referring to it from which this following paragraph has been culled; "Brothels are supposed to be, can be, and should be abolished in Chicago," runs the conclusion of the *Tribune* editorial. "We cannot see how society with all the values it must consider can deal with the straightforwardness of a medical man who knows that the way to attack a disease is in its stronghold and not on its margin. Commercialized vice is a moral as well as a physical disease."

An editorial in the *Chicago Daily Journal,* on August 16, comments on the Bundesen plan by saying "Dr. Bundesen proposes co-operation between the municipal health department and disorderly houses. But such houses are expressly forbidden by law. . . . Venereal diseases are a terrible curse. Every doctor and every health department looks forward to the day when they will be wiped out. But the campaign against them must proceed according to law, or it will do more harm than good. If Dr. Bundesen thinks the laws on such questions should be changed, it is his right and privilege to go before the next legislature and recommend such modifications as he deems desirable but he has no right even to contemplate a league between his department and open notorious violation of the criminal code."

And the *Chicago Evening Post,* on August 17, says editorially: "When Dr. Bundesen proposes to co-operate with lawless resort keepers in providing prophylactics for their patrons he goes further than is either right or wise. This is a plan for preventing physical ills at the cost of encouraging vice. It is rather amazing to read of the city's health officer calmly discussing such a plan with a so-called 'vice-lord' who is said to have 300 women at his beck and call. If Dr. Bundesen knows such a man his first duty is to report him to the chief of police. Commercialized prostitution is not lawful in Chicago and no city official can afford to deal with it as a tolerated institution. If Dr. Bundesen knows of resorts operated by such men he should get some large placards, such as he uses for quarantining contagious disease and nail them in conspicuous places on the outer doors as warning to all who enter of the physical dangers they must encounter. Then let the police take the obvious hint and act."

Some several hundreds of letters and calls were received, it is said by the health commissioner, within a day of the publication of his suggested plan. He is reported to have said that most of these were commendatory and congratulatory. Some few took exception. Among the exceptions were many women and representatives of women's civic organizations though among these last named there were many in favor of the Bundesen plan. That there is a difference is interesting to note, especially since these are supposed to be the days of reconstruction. But just how are we going to reconstruct? Are the American people to progress under the standards of rock-ribbed virtue by which men and women who stepped out on Plymouth Rock, and the men and women who charted and lived up to the Declaration of Independence gave the United States a birthright of clean civic perspective? Or are the American people about to assemble under the flag of Priapus and to dwell at the Sign of the Phallic Symbol forever? Is it there that the "new Americanism," built upon a thirst for sensationalism and sensuousness would erect a decadent modern Babylon where the harlot is queen, and every home breeds Messalinas instead of mothers? What else can be expected when a man drops a nickel in the slot and buys his venereal prophylactic as he would a stick of chewing gum? Or where, like a prize package, this "safety first kit" is included in the price he pays for his "pleasure" in a brothel, together with instruction from his lady as to how to use his "kit?" Millions of dollars of American money are spent annually for sending missionaries into the heathen far places to teach them the Christian religion, built upon the repression of the animal in man, and teaching as a fundamental, respect for women.

Here in Chicago is set forth in all sobriety a prophylactic campaign that will throw open wide the doors of woman's most pitiful profession,

even to little girls, still in the school room, with all dire results eliminated.

Can it be that in teaching the ethics of morality, in leading the nations away from the progress of paganism, that like charity, America's mission work should begin at home? Which will our municipality choose—a nation of mothers or a country nested with voluptaries? God forbid that above the Stars and Stripes any misguided, theoretical radical shall ever place the flag of Priapus and the bar sinister of the Phallic Symbol.

WHY DOCTORS HEAD THE 1921 SUICIDE LIST

An inside story of the poignantly destructive responsibilities of the medical profession is made public through the announcement that, as a group, physicians lead the classified lists of suicides for the year 1921.

Within a twelvewonth, occupational strain and economic stress so ground those men and women who are covenanted to prolong and to save life that eighty-six doctors ended summarily their mortal existences.

Unending hours, irregular opportunities for food, rest and diversion; the persistent psychic demands of patient after patient, and above all the harrassments and embarrassments of hazardous incomes proved in exactly eighty-six cases too much for Spartan courage, superhuman patience and human flesh to endure.

From these figures and conditions a lesson must be learned and heeded. It is high time the doctors called the turn.

Physician suicides stand exactly twelve and two-sevenths times as great as the lowest class on the list submitted by the "Save a Life League," for the "Mayors" as well as the "Members of the Legislature" who ranked seven each as a group. "Judges" ranked next to the doctors, with 57 suicides to their credit; "Bank Presidents" came third, with 37; "Clergymen" fourth, with 21, and "Editors" fifth, with 10.

Calculating purely on a percentage basis, this would show that 51 per cent. more doctors than judges, and 54 per cent. more judges than bankers were led into the slough of despond from which only eternal mercy can effect a rescue.

The deduction is that the man who keeps alive the physical part of his fellowmen and aids the body to co-ordinate with the brain, "mens sana in corpore sano," has a task exactly 50 per cent. harder than does the man who metes out the justice of existence; a job 132 per cent. more difficult than that of the men who finance life, and one practically three times as deadly as that of the man who tries to make the soul of his fellowmen fit for what shall come after! Though the strain of the "Fourth Estate" is traditional, yet these suicide figures would seem to show that some poisons breed their own anti-toxin, as surely an inherent philosophy gained from watching the procession pass must aid the "editors" to achieve that low rating of 10! As for the lowest ratings of all—

Who hath not said that "Politics is its own defense?"

Perhaps, like the squid, the professional politician can play the chameleon even with his own conscience.

Steps should be taken immediately to investigate the causes for this debacle in morale among the men of medicine and a specific sought for without delay. The world needs all of its doctors. "Physician welfare" is an important study for the conservation faddists. Especially since overwork, breakdown and poverty are three insidious factors towards self-destruction.

In the survey of suicides conducted by the "Save a Life League," it is set forth that among the 12,000 suicides accounted for and the 20,000 estimated the vast majority of these pitiful victims were shown to have had financial trouble as a dominant motive even though 30 very rich women and 76 millionaires went the way of self-administered death. In the instances of several of the learned professions, suicide offers the only exit from disgrace caused by a violation of class ethics. This is not true of the malpracticing physician, who stands a most excellent chance of acquittal when he comes to trial. More than almost any other group members, the physician must balance continually his pocketbook against his practice. The charity patient and the uncollectible bill are the leaks that cannot be mended in his personal ship of state. Every hour a doctor gives to a charity patient must be subtracted from the time he would allow himself for recuperation. How many physicians, in addition to giving of their time to those who cannot afford to pay—and only too often to those who have no desire to

pay—find that one generosity begets another and that the virtuous service that must be its own reward must be followed up by gifts of medicine and other supplies?

There has been no postbellum drop of moment in physicians' supplies. The cost of merely living falls heavily upon the psysician's head. A standard commensurate with the dignity of his profession must be maintained. And in addition to the physician there is his family. It might be remarked also that a physician's family is a great deal like any other family—no whit less troublesome, no whit less expensive and certainly not fed upon manna from Heaven nor clothed in garments dropped miraculously from the clouds.

Another and a delicate complication of modern life places upon the long suffering physician an ever-increasing burden of which the laity has no idea. The steady debouchment of the world at large from puritanical guages of family life flings its backfire into the consulting room chair. Passing sex and social hygiene by the way there remains the mental anemia of this condition. For every five cases of marital unhappiness and unrest that land in the divorce courts there are at least twenty-five settled quietly in physicians' offices.

Never in the history of the country have divorce figures reached the appalling magnitude that they have achieved today. In Chicago a few months ago a popular judge retired from the bench because he was heart-sick and soul-sick of the broken homes whose irremediable fractures were brought to him by hundreds and hundreds of men and women. The judge simply could not endure such woe any longer. And yet for every such recital before a judge in the courts, stop and think for an instant of the stories that come only to the ears of doctors. There is no closed season for trouble behind the doors of the physician's office.

The man mentioned above is the third Chicago judge to find his people's troubles more than he could bear. One of the first to abandon his assigned bench was the man who controlled the destinies of Chicago's juvenile court and who went later to the Supreme Bench. This man was not slow to state that his heart-strings could not endure the strain. The toll taken upon his subconscious strength was too much for him to bear.

The fourth judge who died in Chicago while still in the years of high maturity said that his demise was hastened by the sorrows of his hearings in the psychopathic court. The heart break, and the sorrows of a clientele cannot be denied.

But where sits a mortal judge who knows the heart aches, the tragedies, the frailties of the human body and the mortal mind as a doctor must know, must guage and adjust them?

And again, where does the money come in? Not that a physician does not expect to take at least four-sevenths of his recompense in the unquotable gold of ethical markets, but while physicians remain men and women instead of gods they cannot find sustenance for their mortal bodies from fairy food and imaginary raiment and shelter. "Little table spread yourself," "little wardrobe fill yourself," "little house go build yourself," are as yet a white magic far beyond the doctor's medicine cabinet, his obstetrical bag, or his surgical case. He must have a roof, he must be covered, he must eat. But how? And when? And if the wherewithal shall fail him, what surcease has he but that draught of Nepenthe that life affords even to the most loathsome tramp or lowest criminal—death by his own hand.

What a blot upon civilization! What a stigma upon a people that the profession tries to save even to the point of self-sacrifice.

"Skin for skin—all that a man hath will he give for his life and greater love than this hath no man, that he lay down his life for his friend."

From every medical college in the country, year after year, come the young men and young women who have covenanted to do this very thing. The doctor is a tireless beast of burden. He must smile like a mountebank in the hearts where sorrow sits supreme. This is his choice, his lot, his happiness, but what Dead Sea fruit is served him from some of the people he drags back from the brink of death, and from suffering to which death itself would seem a kindly panacea; what Dead Sea fruit the doctor does get, we repeat, when the dead beat gets by with his doctor's bill. The dead beat crop never fails. It flourishes anywhere and everywhere, but the prize ears of the lot are always to be found on the dead beat side of the ledger of the soft-hearted, conscientious doctor. And they get him and they get him until the poor man, because he cannot be dead beat any longer, has to get under the sod himself. Here is a poignant national tragedy.

Before long it will prove itself to be a piercing national boomerang.

The colloquialism, "Tell it to the policeman," is paraphrased to "Tell it to the doctor." With a certain class of disappointed, unhappy neurasthenic wives who seek the medical ear, it is less physical than psychical distress that they vend. The ability to grapple with one's own problems and to fight them out, either to a solution or into the discard, seems daily to be disappearing from the citizenry. With the falling away from home and church, the horde in exodus seeking a scapegoat fixes upon the men of medicine. Today the rash of voluptuousness excoriates the finer senses of the world. This subversion of mind before matter shouts for the saving balance of a normal mentality. And it is this continual drain upon the reserve sanity that is the doctor's saving sword and buckler which leaves him weakened, distraught, defenceless against his own battles of the "world, the flesh and the devil." When a husband is nagged and pestered to death by a querulous, whining woman he can at least slam out of the house and leave her. When that same woman comes to the doctor to tell him of her own pains and her husband's faults, the doctor must sit and listen.

When the woman has relieved her mind the doctor must prescribe for her ailments and settle her emotional *mal de mer* with kindly comfortings or brutal sophistries, whichever fits the case. When the doctor is rid of the woman by the front door of the office, her husband is only too apt to come in at the side entrance and tell his side of the case. The young physician in the optimism of his inexperience survives this everlasting and vicious circle for a few years. Later he, too, is prone to be caught in its miasma. Men and women will shirk responsibility today at any price. Hedonism is exalted. We are "drunk with desire and would be gods."

The church the world over, in all creeds and all canons, complains that science has usurped religion. To which the retort courteous is that the church has dumped much of its bounden duty on the physician. The hunger for spiritual satisfaction felt by an ailing, pampered people is evidenced by the tremendous growth of the semi-religious quack cults. Not "leave it to George," but "leave it to the doctor" is the rule of three today.

Summed up, the current mental, moral, financial and physical strain upon physicians is a matter of attention for the Society for Prevention of Cruelty to Animals. Perpetual motion is supposed to dwell in the physician's physique and at less hourly cost than that expected by an expert masseur or beauty doctor, to say nothing at all of the modistes and milliners. Yet the doctor has for himself no magic remedy more potent than those he gives his patient. Only too often he has neither the time nor the money to take those very rest cures which he prescribes for patients in far better health than he is himself. Medicine in itself is a self-destructive profession to its dispensers. When conditions become so terrible that a doctor is moved to hasten the inevitably speedy end, then indeed the time has come for the profession to take meticulous inventory of its past, present and future.

To standardize the medical profession in the matter of hours and of routine will be impossible so long as Mother Nature clings to her feminine prerogatives and vagaries. Unborn babes refuse union schedules. Death and time scoff at sheathing their sickles at the behest of walking delegates. But it is altogether possible and soon it must come to pass that a species of community working shift, a more adequate financial return, and a keener appreciation of the physician's personal responsibility to himself, shall be put into effect.

Along with this must come a larger teaching, beginning in the elementary schools, of the necessity for the individual's learning to bend his back to his own burden instead of shifting his load to the backs of others, especially those with "M. D." at the end of their signatures. There must be a change in this attitude of expecting about three thousand dollars worth of sympathy and an instantaneous solution of all problems from bringing back a lover to finding a housemaid, for the payment of a fee of three or five dollars. "Grin and bear it" is the law of life. Why should patients demand that physicians, like Caligiostro, shall pull from their saddlebags an anesthetic that shall produce a permanent *eurasthenia* for every *neurasthenic* on the books?

Surcease from these nuisances, reasonable rest, easier routines, better pay, and more personal consideration both communal, civic and individual, will wipe out that stain on the suicide list. Give the poor doctor a chance through legislation, for protection from the bolshevist in his

ranks, for decent money return and for time off for repairs.

Let it be remembered that a doctor is a man who works overtime all the time and for more than half the time for less than half pay.

With grim chagrin the doctors are realizing that in the financial budgets of the laity the one item that is expected to remain stationary while other costs of living mount to the skies is the item "Medical Fees." How many patients take cognizance of this? Living commodities have been on the ascendant for nearly ten years. How about the doctor? A five-cent loaf of bread of former years sells now for from thirteen to eighteen cents. Yet a former five-dollar fee of the physician is a long ways from having attained thirteen or fourteen-dollar dimensions. Instead, while a loaf of bread that sold in 1914 for half a dime cannot be obtained now for practically three times that amount, while a street car fare that was almost universally five and in some cities three cents, in 1914, runs now all the way from six to twelve cents, and a ministration for which a doctor was paid five dollars perhaps in 1914, still brings in to the physician only five dollars, perhaps, often, less than two.

The absorbent cotton, the gauze, the quinine, the mercury, the herbs and the chemicals the doctor uses in his task have soared amazingly. Today the physician practices on credit, and in this respect he is less fortunate than his brothers in the dry goods, grocery and gas business. Very rarely is a doctor paid in full for his services. If he takes businesslike steps to collect what is justly due him, nine times out of ten the doctor is dubbed an ungrateful cuss and comes in for a lot of vengeful back fire, usually in the form of threats of a lawsuit on the part of the patient, which litigation of course would be purely blackmail and an artifice on the part of the patient to evade payment of a just compensation to the physician.

Today the medical profession is just about the worst abused profession in the business. The general public appears to believe that physicians are a group of endowed philanthropists created to serve gratuitously the common weal and to proceed to accept medical attention upon that ideational basis.

These are high-speed days. Regardless of dangers along the road, the doctor today must run with his gears on a high gauge. The era has passed forever when the doctor could jog leisurely along behind his dapple nag, running contentedly enough on a low speed over highways broad and free, and beset with many ruts along the way to fame and fortune. Those were the days when the public held a family relationship with the physician. He was loved. He was held in high esteem and in the infrequent instances when money failed to be forthcoming for his bills, the doctor of the generations preceding knew that it was actual lack of cash rather than a desire to get out of handing over money that left the bill unpaid. Often, too, the doctor found himself well paid in appreciation. Those times are gone.

Medicine, as has been repeated here often, is one of the few constructive professions that is self-destructive. By conserving the health of the nation, medicine slay itself. Speaking in liberal terms, the factors contributing to the peril of those sciences that have reduced illness to a comparative minimum and instilled into the minds of the people a sense of false security are the lessening of morbidity due to hygienic education and practice; diminution of disease due to specific treatments for its specific manifestations, overcrowding of medical profession due to ethically unequipped and poorly qualified membership, state preemption of professional privilege and other economic factors affecting necessary revenue, increasing national disposition to paternalism, bureaucracy, centralization, over-specialization, medical legislation, attempted financial segregation, unqualified admissions to license to practice, and above all a national tendency on the part of the citizenry to attempt to get everything for nothing out of the doctor!

If there is one bill the average citizen seems to hate to pay it is the bill for keeping his human machine or that of his family in working order.

IT APPEALS TO DOCTORS OF THE EASY GOING TYPE

Sociological medicine offers a new field for specialization, and makes a strong appeal to doctors of the easy going type, with comfortable incomes. Many sociologists form the ranks of life insurance workers and public health officials, but no doubt these are distinct from specialists in sociological medicine.—*Town Gossip*, San Francisco, April 15, 1922.

CONGRESSMAN VOLK COMES TO THE ASSISTANCE OF ILLINOIS PHYSICIANS.

CONGRESS OF THE UNITED STATES
HOUSE OF REPRESENTATIVES

Washington, D. C., August 28, 1922.

To the Editor: I am enclosing copy of a letter written to me by a physician of your state and copy of my answer to him.

Please print in full if you have space.

The enclosed covers several very important points and puts several important matters on record of which the profession is not informed.

I am calling your attention to this correspondence because on the face of these statements as made by the doctor, this case may contain elements similar to those exposed in the press reports of the attack upon the acquittal of Manning of North Carolina and others who in honesty and good faith and trust proceeded in their upractice and presented the facts of their work to officials—asking for advice and information and receiving indictment.

It seems to me that the statments as made in the enclosed letter *should receive the attention of your State Society and be called to the attention of your representatives in Congress with demand for the investigation of the officials concerned, and of the facts of the case.*

(The facts, of course, I am unfamiliar with other than as stated in the doctor's letter to me.)

Warrant and obligation for this is to be found in the address of the Speaker of the House of Delegates at the St. Louis convention, Journal of the A. M. A., May 27, 1922, whose attitude was endorsed by the convention in approving House Resolution No. 258.

In speaking of the rights of the medical practitioner, the speaker of the house of delegates states:

"We have too long been silent and permitted the individual doctor to remain the undefended party. . . ." The individual practitioner's interests warrant our deepest concern and his future welfare merits our solicitous and combined assistance. Willing as he has always been to contribute his 100 per cent. to the welfare of mankind, *he should never again be made the victim and the object* of such enactments as the Harrison Law, the Medicated Alcohol Rulings, the Sheppard-Towner Bill, and similar enactments, without our standing by his side and presenting in his behalf our associational influence and arguments for his protection against inadvised imposition and unjustified attack."

The general sentiment of the professions and of the independent journals seems to be strongly behind such declaration as that of the speaker of the A. M. A. House of Delegates and the action of the St. Louis convention of the American Medical Association.

The general and widespread scientific organization endorsement of demand for congressional investigation of the narcotic drug situation (including the interpretation and administration of the laws), and the many communications and clippings, etc., that are sent to me coming from scientific men and scientific journals show the widespread general dissatisfaction and sense of injustice.

They give rise to question as to the accuracy and source of origin of such statement as is made in the report of the Board of Trustees that "physicians are satisfied with the control of narcotics as regulated under the Harrison Narcotic Law" and of such policies and recommendations as have come from the Council of Health.

Such statements and policies and recommendations apparently do not represent true "concensus" of medical and scientific opinion.

They should be publicly modified and corrected lest they be made use of in anti-medical propaganda or to support or excuse "unjustified attack" upon medical men.

In my letter to Dr. Cass I quoted a decision from the U. S. Court of Appeals. Permit me to suggest that this decision is very important to medical men and to the public, and that if it or any other important decision is carried to the Supreme Court the medical profession should see to it that full and fair scientific information is placed before that body, and it not be mislead by suppression of fact or partisan presentation.

I received the August issue of your Journal. I endorse your comments upon "bureaucrats" and "bureaucracies." You have tersely expressed and discussed the *one great issue in this country today.*

Very truly yours,

LESTER D. VOLK.

LETTER FROM DR. CASS TO CONGRESSMAN VOLK

George T. Cass, M. D.
804 First National Bank Building,
Danville, Illinois.

Lester D. Volk, M. D., August 23, 1922.
Brooklyn, N. Y.

Dear Doctor:—

I have read with much interest your speeches in congress on the Harrison Narcotic Act, as at present, I am under indictment for violation of the rulings of October 19, 1921. In your last speech of June 29, 1922, you stated the A. M. A. in convention repudiated the findings of the Council of Health and Public Education. I have looked through the records of the A. M. A. meeting at Boston, as reported in the Journal A. M. A., but am unable to find it. If you will tell me where I can find it I will appreciate it very much, as I wish to use it in fighting my case.

I was treating some patients by a gradual reduction method I had worked out when I received a circular from the Narcotic Enforcement Bureau giving the new ruling of 30 days to complete the cure. I immediately wrote explaining my method and asking if I might have an extension of time as my patients were progressing so well. They did not reply only by sending two inspectors. I showed them my records and they interviewed my patients, and told me they could only say I was acting in good faith.

I heard no word from them till March, some two months later, I received an indictment before the Federal Grand Jury for violation of the Harrison Narcotic Law.

If you can give me any advice or assistance in the case I will greatly appreciate it, especially where I can find the repudiation of the rulings of the Council of Health and Public Education.

My case comes up on the first Monday in September in Danville Federal Court so an early reply will be greatly appreciated.

Fraternally yours,
(Signed) G. T. CASS.

CONGRESSMAN VOLK'S REPLY

CONGRESS OF THE UNITED STATES
HOUSE OF REPRESENTATIVES
Washington, D. C., Aug. 28, 1922.

Dr. George T. Cass,
Danville, Illinois.

Dear Doctor:

Your letter received, asking me for reference as to the action taken by the American Medical Association on the narcotic matter.

Direct resolutions, introduced and acted upon in open convention and approving my Congressional "House Resolution No. 258," are noted in the Journal of the American Medical Association for June 3, 1922, reporting the last convention of the association, St. Louis, May, 1922.

Enclosed is reprint of my speech of January 13th, containing the text and declarations of "House Resolution, 258."

The Treasury rulings to which you refer seem to have originated in a request of a Dr. Haven Emerson at a conference of the Council of Health on November 11, 1920. It is referred to in the Journal of the American Medical Association, January 14, 1922. The request upon the Revenue Commissioner to incorporate this material into a ruling was apparently merely the action of the five men of this Council, unknown by the association itself.

Emerson's narcotic report, from his committee, was rendered in June, 1921, at Boston. From what I can learn, it was never openly presented to and endorsed by the Association. There seems to have been considerable controversy and quibble claiming its endorsement, but I have found no absolute proof of its having been openly adopted by the Association. It is mentioned in my speech.

In any event, the recommendations of Emerson and his committee or council are entirely at variance with the material and statements in House Resolution No. 258, which was specifically approved by open resolution of the convention at St. Louis, May, 1922.

I have recently received Public Health Reports (U. S. Public Health Service), Vol. 37, No. 30, containing reference to decision by U. S. Circuit Court of Appeals, Eighth Circuit, Hurwitz v. United States, 280 Fed. 109.

This decision supports the contentions of my speech of January and my extension of remarks of July, 1922.

It bears upon the point you raise concerning administrative rules and regulations and opinions and definitions.

It declares that "Congress can not delegate legislative power to an executive officer."

It also states that if Congress had intended any such limitations or prohibitions as the matter

concerned in the administrative ruling or interpretation or definition, "it would have said so."

Adverse comment upon the apparent sources and origins of some of these rules and regulations and their scientific status has appeared in your own State Medical Journal and elsewhere. Undoubtedly you are familiar with this material.

You will find a report of the Committee on Legislation of the New York State Medical Society referred to in my first speech. It contains very significant statements.

Trusting that the above gives you key to the situation in medical organization reference and answers your questions in that respect, I am,

Yours very truly,

(Signed) LESTER D. VOLK.

NOTE:—Congressman Volk is a physician with several years of active practice to his credit. Later he became a member of the bar, and is now in Congress from the 10th district, New York.

EASY MONEY

In the course of our wide reading, for the benefit of JOURNAL subscribers, one of us found, in the Police Gazette of July 1st, the following advertisement which we have photographed:

ANYONE : : ANYWHERE

Men or Women

You Can Easily Learn to Be a Doctor

We give you easy lessons by mail and give you a beautiful Diploma. We teach you to treat all kinds of sickness. You can open a Doctor's Office in your own home and

EARN $5,000 YEARLY

Many Doctors earn $5000 a year and more; some upwards of $10000 a year. What others are doing You should be able to do

A Diploma Gives You the Same Opportunity and is Evidence that You are Master of a Profession of Dignity, Prestige and Influence!

WE GIVE YOU EASY LESSONS BY MAIL

You can become a Doctor by only a little study in spare time at home

A Common School Education is all That is Necessary

If you desire to enter an uncrowded field.
If you want to enter this dignified paying profession.
If you want to achieve financial independence and social standing

Merely send us your name and address and we will send you full information by mail Free, without cost or obligation. For free information, address

University Advertising Department
2nd Floor, 4250 Cottage Grove Avenue
CHICAGO ILLINOIS

N. Y. State Journal of Medicine, August, 1922.

MAINE REJECTS SHEPPARD-TOWNER MATERNITY ACT.

The Governor of the State of Maine has rejected on behalf of the State of Maine the Sheppard-Towner Maternity Act. His rejection holds good until the next session of the State Legislature.

Massachusetts, New York, Rhode Island have positively rejected the Sheppard-Towner Maternity Act. The Louisiana Senate committee on Health and Quarantine reported unfavorably on the bill to accept the federal act, and now comes the good old State of Maine, presided over by a red-blooded American who refuses to co-operate with this paternalistic scheme. The people of Maine have reason to be proud of their Governor, and in rejecting by proclamation the bride of the Sheppard-Towner Maternity Act, Governor Baxter has shown himself true to the ideals of American manhood. In his proclamation the Governor said: "Maine neither asks nor accepts federal aid for mothers and children—it is time for the states to hold to the principles of the constitution and guard against all further encroachment by the federal government."

Further he said in part:

"I believe the time has come for the states of the Union to hold to a principle and to carefully scrutinize all offers of 'federal aid' before accepting them. Having no doubt as to what my duty is in this matter, I decline to accept the Sheppard-Towner bill, and this state for the time being will stand with New York, Massachusetts and Rhode Island, the three states that have rejected it. The State of Maine will not sell its birthright; and principle, not expediency, has been the determining factor with me in the solution of this problem.

"The people of Maine are willing and able to care for their own mothers and children, and I have faith to believe that Maine men and women will do this rather than accept so-called gratuities from a federal bureau.

"The Sheppard-Towner bill is to be attacked in the courts by the commonwealth of Massachusetts, and eminent lawyers are of the opinion that the federal government has no power over the states in maternity and child welfare matters. There also is grave doubt as to whether or not the governor of a state has the power to accept the bill in question, even though Congress at-

tempts to confer that power upon him. The governor of a state does not derive his authority from the federal government, and a federal bill that seeks to confer new power upon him is of questionable standing.

"The existing provisions of the Sheppard-Towner bill are reasonably moderate, but it properly may be assumed that attempts will be made to broaden its scope so as to further restrict the state's control over its own affairs. It is apparent that the present bill is but an entering wedge for more radical legislation."

Governor Baxter's warning should not go unheeded by any right-thinking man. It is perfectly obvious that the respective states are perfectly competent to administer their own affairs through their own agents and officials. This is not true of a bunch of bureaucrats and political appointees working from Washington. As we have stated several times before, bureaucracy wherever operated has proved incompetent, extravagant and a menace to the welfare of the people. If the tendency towards bureaucracy and the attempt of the federal government to assume duties that properly belong to the respective states is not halted our American plan of government will fail. Already we have built up in this country a most dangerous form of tyranny, a meddling paternalism which knows no master. In the Sheppard-Towner bill the menace is hidden in an assumed humanitarianism. As we said in our last issue, there are thousands of paternalistic bills before Congress, all sponsored by fanatics and dream-book artists. Senator Borah, in referring the paternalistic bills in Washington, said:

"The course which we are now pursuing will prove in the long run more dangerous to our government than a foreign foe. A proud, strong nation may suffer a reverse in arms, but time may still find it triumphant. An independent and self-reliant people may be overcome by the fortunes of war, but time fights on their side to final victory. But a nation whose citizenship has been drugged and debauched by subsidies and gratuities and bonuses, who have surrendered to the excesses of a treasury orgy, has taken the road over which no nation has ever yet been able to effect a successful retreat."

Men are wise if they are wise in time. Unless a halt is called to the paternalistic tendency of the times, the people of America will be the most standardized and regulated people in the world, and we will all be on the pay roll as spies watching one another.

MEDICAL BOARD APPROVES THE RECOMMENDATIONS OF DIRECTOR W. H. H. MILLER

At a meeting of the Board of Medical Examiners (Department of Registration and Education) held in Chicago, June 13, 1922, the Director, W. H. H. Miller, submitted the following plans, which were unanimously adopted.

1. The Director of the Department of Registration and Education requests your cooperation in countersigning all licenses issued by the Department for the medical professions of Illinois. A copy of this notice to be sent to the County Clerk of each county in the State of Illinois, also to the Secretary of each state medical board to notify him that no licenses issued by the Department of Registration and Education are to be recognized unless countersigned by each member of the Board of Medical Examiners.

2. That each member of the Board prepare the questions in the subjects assigned him for examination; that he become the sole custodian of said questions, present them at the examination, under seal, collect the books of the examination; become custodian of these books and rate them; then turn them into the Department, instead of the former plan which consisted in sending the questions to the Department for printing and distribution.

The Director desires further the full cooperation of your Board in requiring an accredited high school diploma or its equivalent for the eligibity of Other Practitioners.

4. On May 18, 1922, the Director addressed the following letter to the Chairman of the Board:

Dr. J. R. Pennington,
Chairman, Board of Medical Examiners,
Chicago, Ill.

Dear Doctor:

The Director of the Department of Registration and Education desires to assure your Board that it will have his full cooperation in the revocation of any and all licenses issued irregularly and upon the written action of a majority of your Board will immediately revoke any and all

licenses recommended by you for revocation coming under your Board's jurisdiction.

Very truly yours,
W. H. H. MILLER, Director.

IS THE PRACTICE OF MEDICINE TO BECOME A FELONY?

THE INDIFFERENCE OF THE MEDICAL PROFESSION IN LEGAL MATTERS

Experience has taught us that when we want to really accomplish a task it is better to give it to a busy man; when we want it to be done more rapily and with accuracy we assign it to a very busy man. The medical profession has taken this so literally that when legal enactment is threatened they sit back supinely, trusting that their duly elected officials will do all that is necessary to protect them, and just as thoroughly determined that they will do nothing to protect themselves—a most instructive example of "expectant treatment."

Is it not about time that we awake to the needs of self-defense? Each time the Houses at Albany adjourn without actually declaring the practice of medicine to be a felony, the profession takes a long breath and with a feeling similar to Micawber, on the first of the year when he renewed his I. O. U., they "thank God that's over."

The chiropractors think enough of legalizing their chicanery to pledge large sums for the furtherance of their interests—they pay the legal profession well to defend them—they appear both in person and by testimonial—they plead persecution and prosecution—they weep great salt tears on the shoulders of our lawmakers, while at the same time they are stealing the lawmakers' birthright, viz., safeguarding the public from quack and charlatan.

Let the medical profession start its own public propaganda. *Tell the people the truth.* We plead only for a just and proper legal restraint and a Regents' control which is applicable to all professions in the state. We think there is a difference between six years in the study and preparation for a medical career and six weeks in the preparation of a chiropractic. We don't believe that a chauffeur who could not write his name is qualified to be a full-fledged chiropractor or anything else in the above time. We may be prejudiced, but we state it as an honest conviction.

On the other hand, ought we to blame the embryo chiropractic? It is a short cut to a gullible public—the Palmer school, which dominates the advertising, pleads his cause for him, and does it well. He has only to raise funds enough to pay for the course, save sufficient to purchase a sign and table, and there you are—perfectly simple, simply perfect.

It is unfortunate that the medical profession does not take on self-insurance—pay dues to the State Society sufficient to maintain the proper machinery for its own protection. We pay two or three hundred dollars yearly as dues in a golf club—health insurance. Think of it—three hundred dollars for health and amusement, and the Medical Society of the State of New York gets five dollars each from its 9,500 members to carry on the work of survival, not to mention the 5,500 other physicians in the state who do not care enough about medical matters to even belong to the state organization.

We never will be able to do the medical business of the state on a five-dollar per capita basis. Let the need of a greater revenue be agitated and published, and we believe that with better organization and a wider knowledge of facts and the good accomplished both profession and laity will realize their mutual obligation.—N. Y. State Journal of Medicine, August, 1922.

TRI-STATE DISTRICT MEDICAL ASSOCIATION

Synopsis of the program of the annual assembly of the Tri-State District Medical Association held at Peoria, Illinois, October 30, 31, November 1 and 2. (Territory includes Iowa, Illinois, Wisconsin and districts of surrounding states.)

First Day, Monday, October 30, 1922, 7 a. m.

1. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. William Seaman Bainbridge, New York, N. Y.

2. Diagnostic Clinic (Medical). Preference, cardiac, mediastinal, pleural or intrapulmonic disease. Dr. Charles F. Hoover, Prof. of Medicine, Western Reserve University, School of Medicine, Cleveland, Ohio.

3. Diagnostic Clinic (Surgical). Dr. Emmet Rixford, Prof. of Surgery, Leland Stanford Junior University, School of Medicine, San Francisco, California.

Intermission

4. Diagnostic Clinic (Medical). Preference, peptic ulcer, anemia, or goiter cases. Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tenn.

5. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. John B. Beaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

Afternoon Session, 1 p. m.

6. (a) Diagnostic Clinics (Nervous Diseases). One epileptic patient, one brain tumor, one spinal cord tumor, one trifacial neuralgia, one spina bifida, one cerebral arteriosclerosis, one pernicious anemia. Dr. Alfred W. Adson, Dr. Henry W. Woltman, Mayo Clinic, Rochester, Minnesota.

(b) Diagnostic Clinic (Nervous Diseases). Preference, brain tumor, spinal cord tumor, fracture of the spine, old fracture of skull with epilepsy. Dr. Charles A. Elsberg, Prof. Clinical Surgery, University and Bellevue Hospital, Medical College, New York, N. Y.

7. "Injuries of the Cornea." Dr. Alfred N. Murray, Chicago, Illinois.

8. Diagnosis and Treatment of Epilepsy. Dr. Edward M. Williams, Sioux City, Iowa.

9. (Wisconsin man.)

10. "Respiratory Excursions of the Thorax." Dr. Charles F. Hoover, Prof. of Medicine, Western Reserve University, School of Medicine, Cleveland, Ohio.

Intermission

11. "Mechanics of Production of Fractures and Methods of Treatment derived therefrom." (Blackboard drawings, lantern slides.) Dr. Emmett Rixford, Prof. of Surgery, Leland Stanford Junior University, School of Medicine, San Francisco, California.

12. "The Distribution and Delivery of Medical Service." Dr. Frank E. Sampson, Creston, Iowa.

13. "Tumors of the Breast." A study of 255 cases. (Lantern slides.) Dr. William D. Haggard, Prof. of Surgery, Vanderbilt University, School of Medicine, Nashville, Tenn.

Evening Session, 7 p. m.

14. "The Treatment of Deformities of the Upper Extremities." Dr. Arthur Steindler, Prof. Orthopedic Surgery, University of Iowa, School of Medicine, Iowa City, Iowa.

15. "Dacryocystitis—Its Cure by a Combined Intra and Extra-Nasal Operation." Dr. J. Sheldon Clark, Freeport, Illinois.

16. "Ectopic Gestation with Report of Cases." Dr. Thomas W. Nuzum, Janesville, Wisconsin.

Intermission

17. "The Sequelae of Some Unusual Traumata." Dr. Oliver J. Fay, Des Moines, Iowa.

18. "The Management of Maternity." Dr. William D. Chapman, Secretary Illinois State Medical Society, Silvis, Illinois.

19. "Drug Addiction and the Harrison Narcotic Law." Dr. Ernest S. Bishop, Clinical Prof. of Medicine, New York Polyclinic Medical School, New York, N. Y.

Second Day, Tuesday, October 31, 1922, 7 a. m.

1. Diagnostic Clinic (Nose and Throat). Preference, nose and throat cases. Dr. Greenfield Sluder, Prof. of Laryngology and Rhinology, Washington University, School of Medicine, St. Louis, Mo.

2. Diagnositic Clinic (Pediatrics). Preference, pediatric cases. Dr. John Lovett Morse, Prof. Emeritus of Pediatrics, Harvard University, School of Medicine, Boston, Mass.

3. Diagnostic Clinic (Surgical). Dr. William D. Haggard, Prof. of Surgery, Vanderbilt University, School of Medicine, Nashville, Tenn.

Intermission

4. Diagnostic Clinic (Medical). Preference, chest case (heart, lungs, or mediastinum) or a case of fever. Dr. Lewis A. Conner, Prof. of Medicine, Cornell University, School of Medicine, New York, N. Y.

5. Diagnostic Clinic (Surgical). Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

Afternoon Session, 1 p. m.

6. "The Development of Brain and Spinal Cord Surgery and its significance for the specialist and for the general practitioner." Dr. Charles A. Elsberg, Prof. Clinical Surgery, University and Bellevue Hospital, Medical College, New York, N. Y.

7. "Medical Education, Past and Present." Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tenn.

8. "Better End Results in operations for gastric and duodenal Ulcer." Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

9. "The Modern Conception of Acidosis." Dr. Julius Weingart, Des Moines, Iowa.

Intermission

10. (Wisconsin man.)

11. "Observations on Lobar Pneumonia." Dr. Francis G. Blake, Prof. of Medicine, Head of Department of Medicine, Yale University, School of Medicine, New Haven, Conn.

12. "Cholecystitis—A typical manifestation." Dr. August Frederic Jonas, Prof. of Surgery, University of Nebraska, School of Medicine, Cleveland, Ohio.

13. "X-ray Diagnosis in Tuberculosis, Syphilis, and Ostemyelitis of the Bones." Dr. Robert W. Lovett, Prof. of Orthopedic Surgery, Harvard University, School of Medicine, Boston, Mass.

Evening Session, 7 p. m.

14. "Chronic Fatigue Intoxication." Dr. Edward H. Ochsner, President-Elect Illinois State Medical Society, Chicago, Illinois.

15. Subject later. Dr. Walter L. Bierring, President Iowa Board of Health and Medical Examiners, Des Moines, Iowa.

16. (Wisconsin man.)

17. "The Control of Mandibular Pain Through the Nasal (Sphenopalatine-Meckel's) Ganglion; The Control of Earache through the Nasal (Sphenopalatine-Meckel's) Ganglion." Dr. Greenfield Sluder, Prof. of Laryngology and Rhinology, Washington University, School of Medicine, St. Louis, Mo.

Intermission

18. "Trifacial Neuralgia; its symptoms, diagnosis and treatment." Dr. Alfred W. Adson, Mayo Clinic, Rochester, Minnesota.

19. Subject later. Dr. Joseph A. Pettit, Prof. of Surgery, North Pacific College, Portland, Oregon.

Third Day, Wednesday, November 1, 1922, 7 a. m.

1. Diagnostic Clinic (Orthopedic). Preference, orthopedic cases. Dr. Robert W. Lovett, Prof. of Orthopedic Surgery, Harvard University, School of Medicine, Boston, Mass.

2. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. John H. Gibbon, Prof. of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia, Pa.

3. Diagnostic Clinic (Medical). Preference, rheumatic and arteriosclerosic heart disease and show cases with heart failure. Dr. Francis G. Blake, Prof. of Medicine, Head of Department of Medicine, Yale University, School of Medicine, New Haven, Conn.

Intermission.

4. Diagnostic Clinic (Surgical). Dr. Alexander

Primrose, Dean and Prof. Clinical Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

5. Diagnostic Clinic (Surgical). Preference, goiter and abdominal cases. Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Afternoon Session, 1 p. m.

6. "Gastric and Duodenal Ulcer." Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

7. "Malignant Tumors of the Breast." Dr. Alexander Primrose, Dean and Prof. Clinical Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

8. "The Diagnosis of Periocardial Effusion with special reference to physical signs on the Posterior Aspect of the Thorax." Dr. Lewis A. Conner, Prof. of Medicine, Cornell University, School of Medicine, New York, N. Y.

9. "The Liver, Gall-bladder and Ducts." (a) Relation of the liver to the organism as a whole. (b) Its significance in surgical operations and diagnosis. (c) Possible new role of the liver. Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Intermission.

10. "The Oedematous Cardiopath." Dr. Joseph M. Patton, Prof. of Clinical Medicine, University of Illinois, School of Medicine, Chicago, Illinois.

11. "Chronic Indigestion in Children." Dr. John Lovett Morse, Prof. Emeritus of Pediatrics, Harvard University, School of Medicine, Boston, Mass.

12. "The Technique in Certain Forms of Osteosynthesis." Dr. Einer Key, Riddaregatan 1, Stockholm, Sweden.

13. "Physiology and Abdominal Surgery." Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

Evening Session, 7 p. m.

14. "Surgical Judgment." Dr. John H. Gibbon, Prof. of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia, Pa.

15. "Syphilis of the Nervous System." Dr. Clarence Van Epps, Des Moines, Iowa.

16. "A Report on Deep X-ray Therapy of Cancer as Practiced in Germany." Dr. Roswell L. Pettit, Ottawa, Illinois.

Intermision.

17. Subject later. Dr. George V. I. Brown, Milwaukee, Wisconsin.

18. "Multiplex Pathology and the Cancer Problem." Dr. William Seaman Bainbridge, New York, N. Y.

Smoker.

Fourth Day, Thursday, November 2, 1922, 7 a. m.

1. Diagnostic Clinic (Medical). Preference, gastric diseases with special reference to methods of examination. Dr. Charles F. Martin, Prof. of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

2. Diagnostic Clinic (Gynecological). Preference, chronic diseases of the tubes or tubo-ovarian disease or pelvic troubles. Dr. Walter W. Chipman, Prof. of Obstetrics and Gynecology, University of McGill, Faculty of Medicine, Montreal, Canada. Dr. John G. Clark, Prof. of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

3. Diagnostic Clinic (Medical). Preference, acute or chronic types of any form of infectious arthritis; nephritis cases. Dr. Frank Billings, Prof. of Medicine, Rush Medical College, School of Medicine, Chicago, Illinois.

Intermission.

4. Diagnostic Clinic (Surgical). Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

5. Diagnostic Clinic (Surgical). Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

Afternoon Session, 1 p. m.

6. "Basic Factors in the Etiology and Therapeutics of Uterine Hemorrhage." Dr. John G. Clark, Prof. of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

7. Subject later. Dr. John L. Yates, Milwaukee, Wisconsin.

8. Subject later. Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

9. "The Resourceful General Practitioner and Modern Medicine." Dr. Frank Billings, Prof. of Medicine, Rush Medical College, School of Medicine, Chicago, Illinois.

Intermission.

10. "The Inflammatory Pelvic Mass." Dr. Walter W. Chipman, Prof. of Obstetrics and Gynecology, University of McGill, Faculty of Medicine, Montreal, Canada.

11. "Some Clinical Aspects of Myocardial Disease." Dr. Charles F. Martin, Prof. of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

12. Subject later. Professor Theodor Tuffier, Paris, France.

13. Subject later. Dr. Andrew Fullerton, Belfast, Ireland.

Banquet, 7 p. m.

Presidents of State Societies.

Distinguished citizens of the United States.

Eminent members of the profession.

Conferring of honorary memberships.

Note: Dr. George M. Piersol, Prof. of Medicine, University of Pennsylvania, Graduate School of Medicine, Philadelphia, Pa., will deliver an address sometime during the meeting.

The Tri-State District Medical Association, which includes the territory covered by the entire states of Iowa, Illinois and Wisconsin and districts of surrounding states, extends to the medical profession a hearty invitation to be present and participate in the

program at the annual assembly, which is to be held at Peoria, Illinois, October 30th, 31st, November 1st and 2nd.

This Association is purely a scientific body. It assumes no political or legislative duties. The entire time of the assembly, outside of a few social functions, will be devoted to orations, essays, and diagnostic clinics.

A physician in order to become a member of this Association must be in good standing in the County and State Society in the territory in which he or she resides.

You are cordially invited to bring your wife, daughters or lady friend. Make your hotel reservation early (on account of the large attendance) by communicating with Dr. Sidney Eston, Secretary of General Committees, Peoria, Illinois. If you have any interesting cases for the clinics, let the Peoria doctors know.

(Signed) PROGRAM COMMITTEE:
Dr. Edward H. Ochsner, Chicago, Illinois.
Dr. George V. I. Brown, Milwaukee, Wisconsin.
Dr. Walter L. Bierring, Des Moines, Iowa.
Managing Director:
Dr. William B. Peck, Freeport, Illinois.

THE MEDICAL SOCIETY OF THE MISSOURI VALLEY AT ST. JOSEPH

The thirty-fifth annual meeting of this association will be held in St. Joseph, under the presidency of Dr. Paul E. Gardner, on September 21-22. The Buchanan County Medical Society is preparing a series of clinics to be held at the various hospitals of St. Joseph on Tuesday and Wednesday, preceding the meeting, September 19-20. St. Joseph has a proverbial reputation for warm-hearted hospitality, and the arrangement committee, under the leadership of Dr. Floyd H. Spencer, announces that the "tang" of his city for entertainment and good fellowship will be fully sustained upon this occasion. The famous Hotel Robidoux will be headquarters, and all sessions will be held in the beautiful Crystal Room. The exhibits will be on the same floor.

One of the features of the second day will be a symposium on the "Early Recognition of Cancer" participated in by a number of men who have won national distinction in research work and clinical investigation. On Thursday evening at 7:30 o'clock, Dr. C. W. Hopkins, chief surgeon of the C. & N. W. railway, will give an illustrated lecture on "Injuries and Surgery of the Spine," and Dr. N. M. Keith, of the Mayo Clinic, will present a paper on "Hypertension in Cardio-Vascular Disease," illustrated by lantern slides. Following the evening session will be a smoker and other entertainments. Members are urged to bring their ladies, who will be entertained while the fellows are attending the sessions.

Reservations of rooms at the Robidoux should be made early to avoid disappointment. The medical profession of adjoining states cordially invited to attend the clinics whether or not they are members of the society.

The preliminary program follows:

"Causes of Duodenal Ulcer," Dr. E. P. Sloan, president Illinois State Medical Society, Bloomington, Ill.

"Toxic factors in Intestinal Obstruction," Dr. T. G. Orr, Kansas City.

"Convulsions in Children," Dr. S. Grover Burnett, Kansas City, Mo.

"The Phosphatic Index," Dr. J. Henry Dowd, Buffalo, New York.

"Some Phases of the Relation of Dental Focal Infection and Systemic Diseases," (lantern slides), Dr. Russell L. Haden, Kansas City, Mo.

"Renal Function in Prostatic Hypertrophy," Dr. Raymond L. Latchem, Sioux City, Iowa.

Dr. Leigh F. Watson, Chicago, subject to be announced.

"Myoclonic Type of Epidemic Encephalitis," Dr. Lloyd James Thompson, St. Joseph.

Dr. Lynne B. Greene, Kansas City, subject to be announced.

"Cancer: Its Early Recognition," a symposium.

(a) Address, Dr. Fred J. Taussig, St. Louis, Mo. "How Far Can the Cancer Death Rate Be Decreased by Educating the Profession and the Laity?"

(b) "Superficial Cancers," Dr. E. H. Skinner, Kansas City, Mo.

(c) "Gastro-Intestinal Cancers," Dr. John M. Bell, St. Joseph, Mo.

(d) "Cancer of the Breast," Dr. Donald Macrea, Council Bluffs, Iowa.

(e) "Cancer of the Uterus," Dr. Palmer Findley, Omaha, Neb.

Complete program will be issued September 1; if you do not receive a copy notify the secretary, Dr. Charles Wood Fassett, Kansas City, Mo.

Correspondence

THE BEST WAY TO COMBAT GOVERNMENT MEDICINE BUREAUCRACY

Adrian, Ill., Aug. 15, 1922.

To the Editor: I enclose copy of a communication which I received from the Internal Revenue Collector of this district, and a copy of my reply. It seems to me that someone in the Treasury Department pulled a boner, which gives an admirable opportunity to put one over by registering a vigorous protest, which may land in a politically vital spot, and still comply fully with the law.

I think that this is the best way to combat meddlesome bureaucracy. For this reason, I pre-

sent this seemingly trivial matter to your consideration. Yours truly,

A. M. SHAW.

COPY Mim 815.

Treasury Department

Office of Collector of Internal Revenue, 8th District of Illinois, G. W. Schwaner, Collector.

Springfield, Ill., Aug. 8, 1922.

Dr. A. M. Shaw,
Adrian, Ill.

Dear Sir: Your return for registry under the Amended Narcotic Law received July 5, 1922, shows liability for tax from July 1, 1922.

Having failed to file your application for renewal on or before July 1, 1922, or as a new applicant within the month in which you commenced dealing in narcotic drugs, you incurred a penalty of 25% of the tax, or 75 cents which need not be paid now. You have the privilege of filing in this office an affidavit to show reasonable cause for delay, which will be referred to the Commissioner of Internal Revenue. If the cause shown is deemed sufficient, he will relieve you of payment of the penalty, otherwise he will assess it.

Return this letter with your affidavit for identification. Yours truly,

....., Collector.

Mim. No. 312 revised

J. W. R.: L. G.

COPY

P. O. Address Date

To the Commissioner of Internal Revenue:

I hereby solemnly swear (or affirm) that by delinquency in filing return of Special Tax for the period commencing....., as required by the Act of Feb. 24, 1919, was not due to any intent to violate the law or evade taxation, but was due to .....

Subscribed and sworn to before me this..... day of....., 1919.

INSTRUCTIONS

To be signed and sworn to before a deputy collector, notary or other officer authorized to administer oaths, and forwarded to the Collector of Internal Revenue, Springfield, Illinois.

In the blank space in the affidavit, state briefly the reason why the return or returns were not filed within the time prescribed by law.

Aug. 15, 1922.

Collector Internal Revenue,
Springfield, Ill.

Dear Sir: Yours of 8 inst. with Mim. 312 enclosed received. I have not executed Mim 312 because for reasons hereinafter mentioned, I prefer to pay the penalty assessment stated. I did not pay my narcotic tax by July 1st because I overlooked it on June 30 and July 1st. July 2nd was Sunday. I sent the remittance Monday, July 3rd. This explanation would be satisfactory to any business firm. I hope it will be so to your department. If not, inform me, and I will forward the assessment.

However, I shall exercise the right of every citizen to seek the political undoing of any office-holder whom he believes to be unjust or unreasonable in his official actions. It is the general opinion of the medical profession that the narcotic tax is unfairly discriminatory. If it is a revenue measure, which I think it is not intended to be, it is a tax on human suffering. The government might with equal justice lay an impost on hospitals and the Red Cross. If it is a police measure (the Harrison Act, I mean), which attempts to prevent that commerce in narcotics which is harmful to the individual addict and the public, that has the approval of all honest doctors. But that is a matter of universal concern, and its enforcement should be paid from the general funds of the treasury. It would be as logical to tax bankers to pay the detective and trial expenses of bank embezzlers. As the officers of your department are appointive, our profession as a whole and as individuals can have no direct recourse. But every man who is appointed to office is sponsored and supported by some men or organization who are dependent for their political existence upon the votes of the people, without which all classes of politicians are officially not.

Within my limited field I shall endeavor to make things uncomfortable for the particular politicians who are responsible for objectionable appointments. I shall try to get my medical brethren to do the same, individually and collectively.

This is not a matter of seventy-five cents, and my action will not be influenced by the collection or remission of the same. I regard it as a petty imposition of a general policy which should be promptly and efficiently resented by the medical profession.

Yours truly,

Society Proceedings

COOK COUNTY

THE CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The first meeting of the autumn was held on Monday evening, October 3, 1921, at the Hotel Sherman.

The President, Dr. Robert Sonnenschein, presiding.

Dr. I. Pilot, (by invitation) addressed the Society on "Histopathology and Bacteriology of the Adenoid."

(Abstract)

The adenoids have been discussed for many years with reference to their hypertrophy and resulting obstructive symptoms and to their role as a portal of entry in tuberculosis. One phase entirely neglected has been the bacteriology. While many investigations of the bacterial flora of the nasopharynx with special reference to the carrier problem have been made, such work was carried out with cultures obtained with a swab which can at best touch the surface of the vegetations. To ob-

tain more accurate knowledge of the incidence and numbers of the more common organisms and to ascertain the extent to which these organisms flourish in the recesses of the nasopharynx, a study was undertaken by Dr. S. J. Pearlman and Dr. Pilot of the extirpated adenoids. Histological studies were made to bring out the cellular changes, if any, to the presence of the bacteria and to correlate any particular pathological condition with the character of the bacterial flora.

The excised adenoids obtained from children 5 to 16 years of age consisted of lymphoid tissue made up of several folds and frequently revealed crypt-like depressions like the tonsils. Cultures were made upon blood-agar and Loeffler's serum from the surface and from the depths of the clefts and crypts.

Every adenoid gave positive growth. The cultures from each adenoid revealed several organisms regardless of the size or structure of the vegetation, occasionally one organism predominating, rarely, however, in pure culture. The incidence of the various bacteria found is indicated in the following table:

Organism—	Number of individuals	Per cent. positive
Streptococcus hemolyticus	103	61
Streptococcus viridans	103	89
Pneumococcus	103	65
Type 2	103	2
Type 3	103	10.3
Type 4	103	52.7
Mathers coccus	103	17
Staphylococcus	103	60
Gram negative cocci	103	79
B. influenzae (Pfeiffer)	115	40.9
B. diphtheriae	100	12
Diphtheroids	100	30
B. Mucosus capsulatus	103	14
B. fusiformis	10	20

The flora of the nasopharynx as revealed by cultures with a swab was compared to the flora of the surface and depths of the adenoids. The hemolytic streptococcus was found in 40 per cent of 25 persons in the cultures from the swabs while the excised adenoids yielded larger numbers in 60 per cent of the same individuals. The greatest incidence and numbers of bacteria occurred in the depths between the folds and in the crypts of the vegetations, lesser numbers on the surface epithelium and least upon the swabs of the adenoids *in situ*.

The excised faucial tonsils of the same individuals were similarly compared and found to be somewhat different in their flora. Hemolytic streptococci occurred in 95 per cent, B. influenza in 53.9 per cent, B. diphtheria in 12 per cent, and diphtheroids in 17 per cent. The flora of the nasopharynx was further investigated in children whose adenoids and tonsils were removed and compared to a silmiar group in which the adenoids and tonsils were present. In the tonsillectomized, hemolytic streptococci occurred 40 per cent, B. influenza in 26.5 per cent, pneumococci in 32.5 per cent. In the non-tonsillectomized, hemolytic streptococci were found in 56.3 per cent, B. influenza in 39.3 per cent, and pneumococci in 32.5 per cent. The number of all of these bacteria was decidedly fewer in the tonsillectomized children.

Histological sections were made from the adenoids which had been studied bacteriologically. No striking pathological changes could be ascribed to any flora or organism. The adenoids with deeper folds and many crypts, particularly those containing amorphous and cellular debris, as a rule, harbored large numbers of bacteria, especially hemolytic streptococci. For the most part histologically the specimens were uniform in their appearance regardless of the character of the flora. Every adenoid presented evidences of chronic inflammatory changes no greater in degree than the changes that are constantly present in the lymphoid tissues in close proximity to the mucous membranes of the normal individual. In none were found acute cellular reactions to the presence of the organisms that lie in close contact with the vegetations.

From these studies it is well to recognize that the nasopharyngeal vegetations should be regarded not only as hyerplastic obstructive masses but also as foci like the tonsils where dangerous bacteria are lodged. This conception is to be borne in mind in connection with the treatment of diphtheria carriers where the removal of the adenoids as well as the tonsils frequently terminates the carrier state. In the treatment of the metastatic infections such as endocarditis and arthritis, the adenoids should be regarded as possible foci of infection. Although probably not as important in this respect as the faucial tonsils, the adenoids are to be looked upon as a portal of entry of many acute and chronic diseases.

Dr. Samuel Salinger read a paper entitled "Acute Lacunar Adenoiditis."

(Abstract)

This is an acute infection of the adenoid mass due generally to the streptococcus, characterized by swelling of the adenoid and a muco-purulent exudate which fills the crypts and appears on the surface as a thick yellowish tenacious secretion. The symptoms are fever, pains in the ears and throat, impaired nasal respiration, thick speech, a muco-purulent discharge and enlargement of the post-cervical lymph glands. It occurs frequently in association with acute lacunar tonsillitis and is frequently overlooked. The author cited two cases in young adults where the disease occurred alone, in one case the tonsils being absent, and in the other very small and atrophic.

The complications which may ensue are infections of the ear, retropharyngeal abscess and diseases of the lower respiratory tract.

As a rule, the disease is self-limited and yields to simple cleansing and local antiseptics. It is important that these cases be diagnosed so that after the acute attack has cleared up, the mass may be

removed to prevent recurrences and damage to the hearing apparatus. The author directed attention to the method of diagnosing adenoids by anterior rhinoscopy where posterior rhinoscopy is not practical and recommended this method as being more agreeable to the patient and easier for the occasional examiner to master.

Summary

1. Adenoids in appreciable masses are of frequent occurrence in adults.

2. Acute lacumar adenoiditis should be thought of in cases of earaches with fever where the ears are normal, regardless of whether the tonsils are absent or present, inflamed or not.

3. Diagnosis of adenoids should always be attempted by anterior rhinoscopy in preference to palpation in cases where posterior rhinoscopy cannot be carried out.

DISCUSSION

Dr. D. J. Davis said that two parts of the gastro-intestinal canal are of interest in connection with infections. Passing downward from the mouth to the rectum, if one makes cultures at frequent intervals, one will find two regions with maximum numbers of bacteria. There will be relatively a small number of bacteria at the lips and passing down they will increase very greatly, so that there will be found a maximum in the nasopharynx. In the region of the esophagus they decrease rapidly and in the stomach there are relatively few bacteria. On passing down into the gastrointestinal canal the numbers gradually rise, another maximum being attained in the region of the ileocecal valve and upper colon. From here the number of bacteria again diminish toward the rectum. This is also true as regards the incidence of pathogenic organisms and infections. Infections are very common in the nasopharynx region, then they are relatively uncommon until the lower part of the small bowel and especially the region of the appendix is reached, where again many infections appear.

We may parallel this incidence of bacteria and infections if we consider the amount of lymphatic tissue along the gastro-intestinal canal, the maximum appearing in the pharyngeal region, then diminishing in the esophagus and stomach and again gradually increasing in the intestines in the region of the ileocecal valve. Dr. Davis thought the body had developed this lymphatic mechanism in order to protect itself against the bacteria which live in these localities. The lymphatic mechanism presumably is a defensive one.

On the other hand, while the body has developed this lymphatic mechanism to protect itself, the bacteria are equally adaptive and have altered themselves in such a way as to attack the very mechanism the body has developed. Streptococci apparently by preference frequently attack lymphatic tissues in the throat. The typhoid bacillus in the bowel evidently does the same.

Dr. Davis called attention to a peculiarity of the lymphatic tissue in the submucosa of the gastrointestinal canal. It has efferent channels but no afferent channels. It is located just beneath the mucosa where it can readily absorb material and there is no need of afferent channels. There seems to be no question about the function of these lymphatics. Bacteria can practically always be found in the centers of these glands in the normal state. A few bacteria no doubt occasionally get through into the deeper lymphatics and thence into the circulation where they usually die, but at times may cause infection.

The speaker considered the carrier question of importance in connection with the data presented by Dr. Pilot. The adenoids are of great importance in this regard and one should always think of this location as a place where certain dangerous bacteria may reside for long periods of time.

As this study has progressed, they have come to realize that many parts of the body have developed their own flora. And as they investigate this point more in detail, they find that even very limited localities have their own individual bacteria. The bacteriology of the surface of the tonsils and of the crypts is very different and the bacteriology of the adenoid may be quite different from that of the tonsil, or the pharynx or the larynx.

Dr. Davis felt that much work is still to be done. Studies of this sort have just begun. Little is known of the anaerobic flora of the respiratory tract and especially of the tonsils. He cited the fact that it was not known until very recently that the influenza bacillus is one of the very common organisms of the respiratory passages, present often in individuals normally as well as in those suffering with various kinds of infections. It was largely because of the lack of knowledge of its distribution that it was so long thought to be the cause of influenza epidemics.

Because of the fact that new methods are being devised constantly, it is necessary to revise bacteriological data frequently. This necessitates more or less constant reinvestigation. However, this work of Dr. Pilot's on the adenoid appears to be the first systematic study of the bacteriology of the organ ever made.

Dr. George W. Boot was impressed with the large percentage of patients who had tonsils and adenoids removed and still gave cultures of the same organisms as when the tonsils and adenoids were present. This doubtless explains why in so many cases when the tonsils and adenoids are removed there still remains an enlargement of the lymphoid islands in the pharynx, which sometimes becomes very annoying.

Dr. Salinger called attention to the fact that his patient had enlargement of the post-cervical glands. Dr. Boot thought this rather peculiar, as his idea of the lymphatic glands was that the adenoids drained into the same set of glands as the tonsil. He asked if anyone else had noticed the drainage into the post-cervical glands.

Dr. John Edwin Rhodes said that this field of investigation was not available when he was a student and he considered the Society very fortunate in having such a paper as Dr. Pilot's presented, showing the painstaking work of the essayist in connection with the study. He felt that the profession should avail themselves of all such things in an effort to trace down the bacteriology of disease and with the laboratory facilities of this time that is possible for every practitioner.

Dr. J. Holinger stated that Dr. Pilot and Dr. Salinger found virulent diphtheria bacilli and virulent hemolytic streptococci in the folds of the adenoids of a large per cent. of the children, while the children were not sick at all. He was surprised that not even an explanation of this fact was attempted.

Dr. Harry W. Woodruff (Joliet) was interested in the point made in the examination of adenoids in children. He had always felt that using the finger in the examination for adenoids was almost as severe and difficult as removal of the adenoids, and he had used the method suggested by Dr. Salinger for several years.

Dr. Alfred Lewy thought that very few realized the amount of intelligent industry necessary to get together the mass of data presented by Dr. Pilot, and expressed great interest in Dr. Davis' analysis of the work. He asked Dr. Davis whether it would not be as well to say that the infection was more frequently manifested where the lymphatic tissue is most abundant, and whether or not recent investigations had thrown any light on the cause of such apparent localization.

Regarding Dr. Salinger's paper, referring particularly to acute infections of the naso-pharynx, he thought it was rarely necessary to subject the patient during such acute conditions to attempts at posterior rhinoscopy. He believed nearly every case of tonsilitis was associated with nasopharyngitis, either location being primarily inflamed. Ordinary sore throats are commonly nasopharyngitis, as indicated by the inflammation along the salpingo-pharyngeal folds. In his opinion chronic naso-pharyngitis is the most common inflammation found in the upper respiratory tract.

Major Sherman, M. C., U. S. A. (Camp Sam Houston, Texas), said that during the last year he had been impressed with the large number of adenoids found in men in the Army. There are now more boys of eighteen and nineteen than before the war, and the number of adenoid cases is large. He had found some form of naso-pharyngoscope which allowed

a full view of the adenoid mass and had found no difficulty in using this even in very young children. By this method it was not difficult to find exactly where the masses were. In his opinion, the reason there was recurrence was because all of the mass was not removed. It was interesting to see how many times when an adenoid was removed a small, walled-off abscess was found within the mass.

Dr. A. A. Hayden emphasized what Major Sherman said concerning the use of the naso-pharyngoscope in looking for adenoid masses, either after or before the operation. This could be done almost without pain and an excellent view of the entire region could always be obtained. He felt that everyone used the finger very frequently because it was a convenient thing to do, but this was open to the very valid objection of alienating the affections of one's patients.

Dr. Thomas Faith said that when Dr. Salinger spoke of disseminating this knowledge to the practitioners in general he felt one point might be added; namely, that these acute adenoid attacks explain many of the febrile attacks very young children often have. While this is recognized by laryngologists it is very frequently not recognized by practitioners in general. He believed that many of the so-called attacks of gastro-intestinal disturbance in children could be explained as attacks of adenoiditis.

Dr. Harry Pollock was surprised that Dr. Pilot had not mentioned finding any tuberculosis in the 115 cases examined. This condition was quite common, especially in the presence of enlarged glands.

In examining school children, Dr. Pollock had found as high as 15 to 25 per cent. of the cultures sent to the Health Department showed diphtheria carriers but the children were perfectly healthy. At that time they were not doing the Schick test and he wished to know whether the children in whom the diphtheria bacillus was found gave a positive reaction to the Schick test. Recently there had been quite an epidemic of Vincent's angina. Dr. Pilot mentioned finding the fusiform bacillus and Dr. Pollock was surprised that he had not mentioned finding the spirilliform in the tonsils and adenoids.

He felt that the best way to locate large adenoids in adults was by means of the pharyngoscope, but children who had their tonsils and adenoids removed will not hold still and permit this, so it is usually necessary to make a digital examination. In adults in a few cases where adenoids were suspected, where the tonsils and adenoids had been removed but patients complained of discharge of mucus, one must think of Thornwaldt's disease, which could be mistaken for adenoiditis. Their experience was that the posterior cervical glands would usually enlarge from the adenoids. In his opinion the adenoids drain through the posterior cervical glands and the tonsils through the anterior.

Dr. E. P. Norcross said that he saw many children with acute conditions where the site of the trouble was in the postnasal space. In many of these cases the tonsils were not inflamed, the only evidence of a throat infection being a red pharynx and postnasal discharge. He believes that the adenoid is very often the site of acute inflammation in children.

Dr. I. Pilot (closing the discussion of his paper) said that the incidence of the organisms in tonsillectomized patients was frequent, but one should remember that there was considerable adenoid tissue still present in the naso-pharynx, all of which was pitted and these follicles continued to harbor various bacteria in children who have had their tonsils and adenoids removed.

Regarding the question of diphtheria carriers, the number of positive cultures obtained was 12 per cent. of 100 children, and it was indicated that of the 12 strains only two proved to be virulent. In an extensive study made at Johns Hopkins hospital by Guthrie, Gelien and Moss similar results were obtained, in which positive results were present in anywhere from 10 to 18 per cent. of children. There, too, the strains were tested for virulence and only about 11 per cent. were found to be virulent, so the actual number of diphtheria carriers could be narrowed down to those carrying virulent diphtheria bacilli. Their data seemed to indicate that the carriers of avirulent bacilli were harmless and should not be treated as dangerous unless the cultures were tested for virulence.

Organisms of the Streptococcus hemolyticus group, B. influenzae and others that were quite virulent, could exist in the nasopharynx without causing any symptoms on the part of the person, depending upon the resistance of the individual and also upon the invasive properties of the organisms. The organism might be virulent but its power of invading the body was another property which must be considered in determining the actual danger of the organism. The more invasive type of Streptococcus hemolyticus due to infected milk from sore throat are organisms which are a little different in their reactions and have chiefly this invasive property. An individual infected by this particular strain is dangerous to another individual, while an individual carrying the ordinary Streptococcus hemolyticus, which does not have this particular invasive property, is not dangerous.

Dr. Pilot had made no attempt to present any complete histopathology or bacteriology. The demonstration of evidence of either active or latent tuberculosis with strains of tubercle bacillus in the tissues constitutes a big problem in itself. Each of the organisms was studied and considered as a separate problem and no reference to the tubercle bacillus and other organisms was made because the bacteriologic study is not yet complete. The fusiform bacilli encountered were those found in anerobic cultures of 10 specimens. The spirillum was encountered in connection with the fusiform bacillus, but nowhere as frequent as in the tonsil. The adenoids are not as favorable for the formation of masses of fusiform bacilli and spirilla.

Dr. Samuel Salinger (closing the discussion on his paper) stated that the scope of his paper did not include the catarrhal form of naso-pharyngitis which is associated with common colds in children. He wished to call attention only to the particular form of acute lacunar adenoiditis, and did not expect to touch upon the other types of adenoid infection which is a large field and which would include Thornwaldt's disease, the latter having no connection whatever with the acute type he considered.

As to the use of the naso-pharyngoscope, if one is called to attend an acute condition in a patient's home he is not likely to have the pharyngoscope with him. Secondly, in the presence of a large mass of muco-purulent material there is much difficulty in getting a good view. With the naso-pharyngoscope one can get an excellent view of a limited area but not a general *ensemble*, and while the naso-pharyngoscope has its place in some conditions, Dr. Salinger thought it was better if one could see the condition as it exists without the aid of mirrors or magnifying glasses, and in its relationship to the surrounding structures.

In regard to the enlargement of the posterior cervical glands, he found this was very frequently mentioned in connection with inflammation of the adenoid. Many authorities consider this finding to be particularly pathognomonic of infections in the nasopharynx.

Dr. Robert Sonnenschein asked Dr. Davis if he did not think Dr. Salinger was correct in using the term "lacunar" instead of "follicular." Would not the same nomenclature be applied to the adenoid as to the tonsil? The actual "follicles" of the tonsil are lymphoid masses lying beneath the mucosa. Ordinarily when the term "follicular tonsillitis" is employed, it refers to infection of the crypts or lacunae of the tonsil, hence the expression "follicular" is really a misnomer in these instances.

Dr. D. J. Davis, replying to questions, thought the point of Dr. Sonnenschein was well taken. The follicles as they are seen in the sections often show necrotic tissue and various inflammatory cells and seem to be the part of the organ which exhibits the greatest degree of change.

Regarding the manifestation of disease, brought out by Dr. Lewy, the speaker thought one should consider "disease" as a relative term. Bacteria are constantly passing into our interior and we are constantly absorbing toxins, particularly throughout the gastrointestinal canal. In saying that many infections appear in the region of the ileocecal valve and in

the region of the oropharynx he meant that the chief manifestations of disease appear in these two localities.

With reference to the diphtheria carriers, Dr. Davis believed the extirpation of the palatine tonsils would diminish the number of bacteria carriers but did not think it would do more than that.

CHICAGO OPHTHALMOLOGICAL SOCIETY

November 21, 1921

Dr. Ephraim K. Findlay, President

OPERATION FOR DRAWN UP PUPIL

Dr. William A. Fisher. The result of lowering of the pupil by the Smith method. After a capsulotomy operation, the pupil was drawn up into the scar tissue which prevented the patient from seeing. There was no reaction following this operation.

LEONTIASIS OSSEI

Dr. George F. Suker presented two men, in the sixties, typical changes of leontiasis in the cranial bones, involving the orbit (photographs and x-ray plates shown) and implicating the optic nerves, producing a choked disc with the secondary atrophy in three eyes. In both cases a divergent strabismus resulted from the encroachment in the orbit by spongy bone along the inner walls, characteristic of leontiasis. In addition there was a pronounced proptosis of the two eyes. Upon a radical removal of this spongy bone, the eyeballs receded, the divergence practically disappeared and so also the choked disc, but necessarily not the atrophy. Roentgenograms of other parts of the skeleton showed but a moderate leontiasis of one tibia and fibula in each patient. One patient was still living, the other died because of the excessive process involving the sphenoid in the region of the sella.

PATENT HYALOID ARTERY

Dr. Suker presented a patient in whose left eye was such a vessel with fimbriated terminal convolutions, accompanied by minute hemorrhages into the vitreous on various occasions. Vision in the eye was normal when no hemorrhages were present. These occurred after violent or strenuous physical exertion. Blood pressure was normal; no tuberculosis; no syphilis present. Patient, a dentist, 38 years of age.

A MIGRAINE PATIENT, SEROUS MENINGITIS

Dr. Suker stated this patient had a serous meningitis (Quincke's type) 14 months ago accompanied by a marked bilateral choked disc. Vision in each eye now with low myopic astigmatic correction 20/16. Fields for form and color concentrically contracted. At present he showed moderate secondary optic atrophy in each eye. He had a return of the serous meningitis with the reappearance of the choked discs, and after convalescence vision again was normal and fields the same as after the first attack. Being a migrain patient, with marked gastric disturbance, and these choked discs, it was thought by several, who had not recognized the Quincke's type of serous meningitis, that he had a brain tumor. No focal brain tumor symptoms could be elicited, but the classic characteristics of a Quincke's meningitis were very pronounced. The patient was an ex-soldier of exemplary habits, no lues, but had arrested pulmonary tuberculosis.

PTERYGIUM SURGERY

Dr. Michael Goldenburg read a paper on this subject, which will be published in full in this Journal.

Discussion. Dr. Clark W. Hawley said that for something like thirty years he had seen a good many of these cases operated on by what was called the McReynolds method. This was a misnomer. McReynolds simply made the operation popular. It was an old French operation. He had never seen an extensive case of pterygium that was treated by that operation where the cosmetic effect was good, for the reason that one left a large corneal scar and nature would cover this rapidly by an extension of the epithelial layer of the conjunctiva over the scar. If one took a pterygium where it extended to the center of the cornea and desired an absolutely clear cornea, it was necessary to do transplantation with Thiersch grafts, the object being to get some bridge between the pterygium and the scar on the cornea. The graft should be the thinnest possible piece of skin which might come from the mastoid if free from hair.

Dr. Goldenburg, in closing, said he was not familiar with the procedure described by Dr. Hawley. It had not been his good fortune to do any kind of surgery on the cornea where he destroyed Bowman's membrane or the cornea proper without leaving scar tissue.

The procedure he had presented was very simple. Its only advantage over the McReynolds operation was that it removed the foreign body in the lower culdesac, brought it outside, and the eye showed hardly any reaction. After six months or a year one could hardly tell where the eye had been operated on.

CATARACT OPERATION PERFORMED BY COLONEL SMITH

Dr. Ephraim K. Findlay stated that on the 28th of May, 1921, Lieut.-Col. Smith of Amritsar, India, operated at the Illinois Charitable Eye and Ear Infirmary on 13 cases of senile cataract, performing bilateral operations on 2 cases, making in all 15 cataract extractions. The average age of the patients was 62½ years, the oldest being 81, and the youngest 43 years. All cases had good light perception and projection with clean laboratory records, except a few isolated colonies of staphylococci from the conjunctival sac of 3 of the patients.

The preparation and after-treatment followed as closely as possible the directions given by Colonel Smith. The intracapsular extraction was performed in all cases except one, where the capsule ruptured before delivery. In one case only was there loss of vitreous at the time of extraction, and that in an uncontrollable patient who squeezed violently during the operation.

Four of the cases resulted in total failures from the following causes:

Case 1 had a vomiting spell after a fit of coughing the day after operation, with choroidal hemorrhage and expulsion of the vitreous and total loss of sight.

Case 2. Patient squeezed during the operation. Vitreous was lost and a severe iridocylitis followed, with iris drawn up and the pupil occluded, so that vision was reduced to shadows.

Case 3. Patient tore the bandages off the third day and in the after-treatment was difficult to control. A severe iridocyclitis followed, resulting in blindness.

Case 4. Patient had iridocyclitis, pupil was drawn up to the wound. Fine floating bodies were found in the vitreous and vision was reduced to 20/150 which no lens would improve.

The other cases after refraction gave the following visual results: One 20/20; four 20/25; one 20/40; three 20/50; two 20/65.

In percentage this would read:

Good results 20/30 or better.....33.3%
Fair results 20/40 to 20/50.....26.6%
Vision of 20/65 .....13.3%
Failure 26.6%

Eliminating the first four cases in the remaining 11, 6 of them had iridocyclitis of varying degrees of severity, with incarceration of the pillars of the iris in the wound, making a percentage of 54.5. The length of time in the hospital after the operation varied greatly, and some of the cases were retained for an operation on the second eye. Some were retained long enough so that satisfactory refraction could be made and the reports completed, as many of the patients when dismissed never returned. The average convalescing period from the other methods of operation was certainly not lessened.

In summing up as far as possible from such a limited number of cases, no definite conclusions could be drawn. The results did not show an improvement in visual result from capsular operations. The inflammatory reaction was as great, if not greater, as there was more trauma.

The cosmetic result from such a large iridectomy was far from satisfactory. The claim that when the lens was removed in the capsule there was less danger of iridocyclitis had not been proven in these cases, as 54.5 per cent of iridocyclitis was a large percentage. Although these operations were performed by a skilled master in the technic of intracapsular extractions, the results had not proven as satisfactory as the older methods of operations.

Dr. W. A. Fisher stated that on May 26, 1921, at the Chicago Eye and Ear Hospital, Col. Smith performed 16 intracapsular cataract operations on 15 patients, one of them having both eyes operated upon. The oldest patient was 85, youngest 47, and the average age 65. The longest time in the hospital was 25 days, shortest time 10 days, and the average time 14½ days.

The visual results of 16 cataract operations performed by any method would not be considered a sufficient number to recommend or condemn the method. Smith was fortunate in some respects and unfortunate in others. Fortunate in having only one case with poor vision due to fundus lesion. Unfortunate in having a case of hemorrhage of the choroid, especially when it occurred only once in about 250 operations.

The visual results reported were from records received from the doctors who referred the cases and were made about six weeks after the operations.

In figuring the above averages, Cases 15 and 16 were purposely omitted.

	Age.	Vision.	In Hospital.	Complications.
1. O. S. J.	56	R. E. 20/10	15 days	None.
2. L. A.	78	L. E. 20/15	19 days	None.
3. J. C. Y.	78	L. E. 20/15	19 days	None.
4. D. H. M.	64	R. E. 20/20	17 days	None.
5. E. E. C.	51	R. E. 20/20	11 days	None.
6. A. S.	63	L. E. 20/20	25 days	Vitreous loss; iris prolapse.
7. Dr. E. M.	56	L. E. 20/20	12 days	None.
8. J. W.	47	L. E. 20/20	16 days	None.
9. W. T. H.	65	L. E. 20/20	13 days	None.
10. L. A.	78	R. E. 20/25	19 days	None.
11. Mrs. M. W.	85	R. E. 20/30	17 days	None.
12. Mrs. O.	69	L. E. 20/40	14 days	Vitreous loss; iris prolapse.
13. M. B. N.	58	L. E. 20/50	10 days	Ruptured and retained capsule; iritis.
14. N. S.	80	L. E. 20/60	14 days	Ruptured and retained capsule; iritis; drawn up pupil; lowered, leaving clear fundus, macular degeneration.
15. E. J. P.	71	R. E. 0	10 days	Hemorrhage of choroid on table.
16. H. E. B.	45	R. E. 0	3 days	Temporary insanity; iridocyclitis and occluded pupil. May make artificial pupil.

DISCUSSION

Dr. Thomas Faith said as there was such a wide discrepancy between the report of Dr. Fisher and the report of Dr. Findlay, it seeemd hardly fair to the operator or to the operation to go any further without inveatigating the histories and records of these cases.

Dr. William L. Noble. In considering the 15 intracapsular cataract operations recently performed by Dr. Smith, of India, at the Illinois Charitable Eye and Ear Infirmary, there were some things quite definitely established. First, the trauma produced on the eye was far in excess of that produced by the well established procedure for the removal of cataract as practiced on the continent in England and America. This trauma was responsible for the large amount of iridocyclitis which followed this group of operations. Second, there was much more danger of loss of vitreous in the Smith extraction than there was in the regular standard extraction for cataract. Third, the removal of the support of the vitreous of the posterior capsule introduced another element of danger which was not present in the regular standard extraction for cataract.

An honest ophthalmic surgeon would not allow his patients to take a single chance that they did not have to take when

operating for the removal of cataract. He was convinced that no man could do this operation on a patient without subjecting the patient to a very increased danger of an unfavorable result.

It must be remembered that this group of cases at the Eye and Ear Infirmary were selected and approved by Smith for operation. The whole group of cases was therefore much freer from those complications which would be found in the average of patients applying at that institution for the removal of cataracts.

Dr. William H. Wilder stated: We knew that iritis and iridocyclitis frequently followed cataract extraction in the hands of any operator, however, skillfully performed. The degree of iridocyclitis varied in different cases. Those who had had much experience in cataract work would agree that there might come a period about the sixth or seventh day after the operation when the eye that seemed to have been healing normally without much sign of reaction, suddenly flared up and exhibited signs of iridocyclitis, the cause of which was not always determinable. In such cases, many operators, following the suggestions of Gifford, gave with great advantage to the patient, salicylic acid in some form. It would be manifestly unfair in such cases to charge this against the method the operator had used, unless it was clear that some infection had been introduced or the eye had suffered from unnecessary traumatism.

Probably more trauma to the eye was caused by the intracapsular method and especially so in the hands of one who had not had the opportunity of acquiring the skill necessary to do the operation, such as Dr. Smith had, and consequently there would be more injury to the eye, more accidents, such as vitreous loss and more iridocyclitis. We ought to get as large statistics as we could to throw light on these phases of the subject. Vision did not appeal to him so much in settling the value of the method, because from the very nature of the case it might not be possible to get perfect vision. The tests of the eye before the operation might have shown excellent perception and projection and yet after removal of the cataract, the ophthalmoscope might reveal a condition of the fundus, such as posterior choroiditis or a hazy vitreous that would preclude good vision even if the operation had been perfect in every respect. One need not necessarily pride himself because after cataract extraction his patient got 20/15; the operation might have been more shabby and the risks greater than in another one in which the vision was only 20/100.

Dr. George F. Suker. He had performed the Smith-Indian extraction on private and clinical cases. He had had a number of cases at the Cook County Hospital in which he had assisted his interns to do the operation. There was no doubt at all, but that in doing the Smith-Indian extraction the beginner did undue damage and inflicted trauma to the eye. He used altogether too much pressure. One need not exert any more pressure in delivering the lens than in doing capsulotomy. Exercise of proper delivery pressure was just as essential as good assistants. The direction of the pressure exerted was also absolutely an important factor. Considerable traumatism was caused by the atrabismus hook riding too hard and long on the limbus in the region of the ciliary body. The line of pressure should be directed to the entrance of the optic nerve and stay well within the limbus—a rocking pressure, and then the iris was not unduly stretched or crowded back upon the ciliary body and processes. A properly placed iridectomy, not too large, nor too small was an essential requisite.

Looking back upon his experience with cataract extraction of the Smith-Indian type and capsulotomy method, he had not come to a definite conclusion as to which method he would prefer in all cases.

In all patients in whom there was a marked arteriosclerotic condition of the peripheral vessels, he was not in favor of the Smith-Indian extraction. As far as the loss of vitreous was concerned, a limited loss did not signify much complication or reduction in vision, if any. So far as visual acuity was concerned, 20/20 was not the final criterion. For, usually, one did not know what the patient's visual acuity was prior to the cataract. It might not have been 20/20. Nor did we in every instance know the anatomic condition of the macular area, disc, choroid or retina; also there might be a high refraction error present, associated with amblyopia exanopsia and thus 20/20 could not be attained no matter what method of operation was chosen.

The great objection he had to the Smith-Indian extraction was not the technic or the results obtained, but rather the unsighly pupil. In the majority of cases there was a retracted pupil. Why it occurred, he did not know.

Dr. George F. Fiske said there were things which struck him as remarkable in these reports, the first one of which was the fact of the very fine visual results. The other was the high percentage of loss of vision. It seemed to him unfortunate that there should be a loss of 20 per cent in 30 cases.

Dr. Harry W. Woodruff, of Joliet, Illinois, stated that last Thursday he attended a meeting of the Kansas City Eye, Ear, Nose and Throat Club. A report was read of the cataract operations performed by Col. Smith. He could not give this report in detail, but he remembered that there was a 25 per cent loss of vitreous.

Dr. Fisher and Dr. Findlay replied to the remarks made in discussion. Robert Von Der Heydt, Cor. Sec.

CHICAGO OPHTHALMOLOGICAL SOCIETY

December 12, 1921

Dr. E. K. Findlay, President

KERATOSIS AT THE LIMBUS

Dr. Robert Von Der Heydt: Mr. A. P. J., aged 62, farmer; left eye; first seen in March, 1921. The patient stated that the new growth had existed for six months. On inspection a triangular zone at the external limbus presented the appearance of xerosis. On examination with the corneal microscope, it was seen to consist of a hyperemic zone surrounding a pale white flat triangular area. This latter was composed of smooth glistening round elevations. Many of these presented in their centers a deep seated whorl of blood vessels. On account of the possibility of this new growth being an epithelioma he showed it to Dr. Oliver Ormsby who without hesitation pronounced it a keratosis (leucoplakia). He stated, however, that this was the first instance where he had seen a change of this nature at this location.

On examination of the literature he found that neither Graefe-Saemisch nor Parsons had described this condition. In the new literature of the past ten years he found two exactly similar cases described, one by Boronici in the Annali di Oftalmologia, 1910, in a two-year old boy, the other by Kamoto in the Klin. Monatsbl. f. Augenheilk, 1909. The latter was in a man, 33 years old, It was examined microscopically and the diagnosis of keratosis verified.

In the case shown tonight there had been but a slight increase in size in the nine months during which time he had had it under observation.

MEDULLATED NERVE FIBERS

Dr. George F. Suker presented a case showing medullated nerve fibers in the right eye, so extensive that nine-tenths of the nerve head was involved. The massive leashes of medullated fibers extended well into the periphery of the fundus above and below. The vision was 20/40 and could not be improved with lenses. The blind spot was enlarged downward. The form and color fields

were normal. The left eye was negative and vision normal.

COMPENSATION FOR OCULAR INJURIES

Discussion on this subject was introduced by Dr. Frank Allport who was followed by Dr. H. W. Woodruff. Dr. Nelson M. Black of Milwaukee called attention to the preliminary report of the Committee of the Section on Ophthalmology of the A. M. A., which was taken up and discussed by Drs. Black, Brawley, Blue, Gradle, Brown, Wilder, Beck, and Allport. Dr. Von der Heydt, Cor. Sec.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otological Society was held at the Hotel Sherman on December 5, 1921, at 8:00 p. m.

The President, Dr. Robert Sonnenschein, presiding.

DEMONSTRATION OF CASES AND INSTRUMENTS:

Dr. Alfred Lewy showed a patient who had first been seen by him in the latter part of September, 1920. He had complained for two months of discomfort, rather than actual pain, at the right side of the root of the tongue, had lost some weight and did not feel quite as well as usual. Inspection showed three raspberry-like prominences, with an irregular fissure, situated at the right side and dorsum of the tongue, adjacent to the right tonsil, and some infiltration of the right posterior pillar. Examination for tuberculosis and syphilis being negative he proceeded on October 9th to coagulate the entire area, using the D'Ar sonval current, about 1200 m. a. The slough was separated in about two weeks, the patient suffering more or less pain in the meantime. Histological section of tissue made at the time of operation was exhibited and showed the epithelium invading the underlying tissue at one point.

Several weeks after the operation the gland bearing tissue of the right side of the neck was removed. Examination of this glandular tissue revealed no regional extension of the epithelioma. The patient was subsequently x-rayed. Following this the operated region in the side of the neck became hard and swollen, but this had since subsided to a slight infiltration.

(To be continued)

JACKSON COUNTY

The Jackson County Medical Society held its regular quarterly meeting at Murphysboro, July 27, at 8 p. m.

The purpose of the meeting was to obtain the attitude of the various candidates toward the medical profession; and to discuss legislative questions of medical interest.

Dr. Ormsby, chairman of the Legislative Committee, reported that from all letters to candidates, national and state representatives and county school superintendent, only one response was received. That was from H. N. Cupp, a candidate for county school superintendent, who expressed himself as being glad to co-operate with the county society in public health matters in the schools.

Dr. Ormsby said of the present Medical Practice Act that it is an act prohibiting regular physicians and no one else. He states that the slow response to letters to our representatives shows how little influence the medical profession has had and advises active lobby at our state capitol.

Dr. Horstman spoke of the unfairness of our Medical Practice Act allowing inequality in educational standards of different cults.

In response to a letter from the State Department of Health the following resolution was adopted:

Resolved, That the Jackson County Medical Society co-operate with the State Department of Public Health in every way possible in reporting communicable diseases, births, stillbirths and deaths.

M. E. Rolens, M. D., Secretary.

MACOUPIN COUNTY

The Macoupin County Medical Society met in the Hillside Country Club house at Carlinville, Illinois, and was called to order by President M. Herschleder of Mt. Olive.

Fifty-six members and visitors were present:

An elaborate dinner was served.

In commemoration of the tenth anniversary of his assuming the office of secretary of the society the censors had ordered a caduceus which was presented to Dr. T. D. Doan, of Scottville, at the close of the noonday banquet by Past President Dr. G. E. Hill, of Girard, in the following pleasing address: "Mr. President, Ladies and Members of Macoupin County Medical Society: During the early existence of this society we held our meetings semi-annually. It has only been in the last few years we have been meeting bi-monthly. This society has grown not only numerically, but has had a remarkable growth in interest. Its membership now includes almost every physician in the county.

The officers of this society are elected annually. However, the office of secretary-treasurer has been filled by the same individual for ten years, and we, as members, appreciate the fact that, as a secretary is, perhaps, the most important officer, the fellow that puts the life into the society, it stands that he should be a live, active, energetic man.

Macoupin County Medical Society feels that it has just such a man, and today in commemoration of our present secretary, his ten years of active service, his untiring and ever faithful efforts to build a medical society worthy of the name, and I think that today Macoupin County Medical Society stands among the foremost down-State societies, we, as members wish to give credit where credit belongs, and as evidence of appreciation this society wishes to present to you, Doctor Doan, this emblem as a token of gratitude and appreciation for your faithfulness and your untiring energy in making Macoupin County Medical Society

what it is today. Doctor Doan will you please accept this little token as a gift from your friends?"

To which the secretary replied in his characteristic manner.

The application for membership of Dr. Charles G. Stegmayer, of Benld, and Dr. Leon Kelso, of Carlinville, were reported favorably by the committee of censors and on motion they were elected to membership in the society.

Moved and seconded that Dr. C. D. King, of Gillespie, be elected to honorary membership in the society: Carried.

Moved and seconded that Macoupin County Medical Society co-operate in every way with the State Department of Public Health in reporting communicable diseases, births, still births and deaths and that the members urge other physicians to do the same: Carried, unanimously.

The following proposed amendment to the Constitution was read and on motion was accepted and laid over until the next regular meeting.

"(a) The members of the Board of Censors shall not be relieved of their duty in relation to applications for membership on account of temporary absence.

"(b) The Board of Censors shall present the name and address of applicant to the secretary for publication in The Bulletin previous to his election to membership."

Dr. J. Curtis Lyter, of St. Louis, gave an excellent interesting address on "The Pathological Physiology of Heart Failure," which he very pleasingly illustrated with blackboard drawings. The subject so comprehensively given was taken up and discussed by the members and visitors present.

The ladies present were given an automobile ride through the city and surroundings.

The meeting was one of the most pleasing and profitable in the history of the society.

Dr. T. D. Doan, Secretary.

RANDOLPH COUNTY

The Randolph County Medical Society met at Steeleville, Illinois, the home of Drs. Thomas Robertson and Alred C. Wiebusch, who acted as host. The Steeleville City Park was decorated for the occasion; tables, benches and liquid refreshments, such as can be obtained in these stringent times, were provided.

The Doctors brought their wives and ladies and baskets of lunch with them.

At 12:30 p. m. a delicious dinner was served by the ladies. After dinner the host produced some black Havana cigars and the Doctors, eleven of them, lit up and soon were buried in clouds of smoke and in deep thought.

The minutes of the last meeting were read and approved. The annual election of officers was then taken up.

Dr. J. T. Lloyd, of Baldwin, was elected president; Dr. Alfred C. Wiesbusch, of Steeleville, vice-president; Dr. Albert E. Fritze, of Chester, secretary and treasurer.

In the absence of the newly elected president, the vice-president, Dr. Alfred C. Wiesbusch, appointed Drs. Thomas Robertson, George Hoffman and J. T. Tiess as censors.

A motion was made and carried that Dr. N. G. Stevenson's resignation will not be accepted.

A motion was made by Dr. J. T. Riess, seconded by Dr. H. LeSaulnier, to approve and reply to a letter from the Jackson County Medical Society. This letter contained a copy of a letter from Representative E. E. Dennison, showing his attitude to the Maternity Bill and why he gave it such arbitrary support.

The letter from the Department of Public Health of Springfield was then taken up and discussed.

Every member present stated that they made strong efforts to report every case of birth and death, but that sometimes it is impossible to know to whom to report.

On motion by Dr. J. T. Wier, with a second from Dr. G. E. Hendrickson, the following resolution was acted upon:

The Randolph County Medical Society is willing to support the resolution of the state and to co-operate in every way with the State Department of Public Health in reporting communicable diseases, especially in the matter of births, still-births and deaths, if the state will furnish a definite person and place to report to.

A motion was then made to have our next meeting in the Park of Red Bud, Ill., about the first week in September, at the call of the president and secretary, and by all means bring the ladies, lunch baskets, coffee, black cigars, and combine pleasure with business "In God's out of doors."

Adjournment.

Albert E. Fritze, Secretary.

Marriages

John Swope Davis Chambers to Miss Helen Jones, both of Chicago, August 10, at Davenport, Ia.

Earle Bloodgood Fowler to Miss Barbara Blatchford, both of Chicago, August 5.

Martin L. D. Meyer, Chicago, to Miss Hortense Schroeppel of Collinsville, Ill., July 25.

Karl William Wahlberg, Moline, Ill., to Miss Blanche Mildred Carpenter of Rock Island, Ill., July 15.

Personals

Dr. Lawrence A. Ryan was appointed city physician of East St. Louis, August 7.

Dr. Joseph T. Woodward, Lincoln, has been appointed full-time medical examiner in the U. S. Veterans' Bureau, Chicago.

Dr. Julian H. Lewis has been appointed as-

sistant professor of pathology at the University of Chicago.

Dr. Lowell S. Goin, director of the roentgen-ray laboratory, Peoria, has returned from Germany where he attended a course in deep roentgen-ray therapy at the University of Frankfurt.

Dr. Ulysses G. Darling has resigned as medical superintendent of the Lake Geneva Sanatorium, Lake Geneva, Wis., to take up practice in nervous and mental disease in Chicago.

Dr. Francis J. McNamara, chief physician of the Cook County Jail, Chicago, is successfully recovering from an appendectomy performed August 1, at the Michael Reese Hospital.

Dr. Charles B. McKlumphy has been appointed assistant professor of pathology at Northwestern University Medical School. Dr. McGlumphy has been working with Stoerk at the Franz Joseph Spital in Vienna for the past two years.

Dr. Jacob M. Furstman has resigned as city health director of Bloomington to take effect August 31. Dr. Furstman will assume the duties of director of health of the Peoria public schools, having been elected by unanimous vote of the Peoria Board of Education.

Dr. Frederick Robert Zeit, for more than twenty years professor of pathology at Northwestern University Medical School, at his own request has been relieved of active duty in the medical school. He plans to spend next year abroad. The Pathological Museum of Northwestern University will hereafter be known as the Frederick Robert Zeit Museum of Pathology.

Dr. Irving Browning, physician for the C. M. & S. P. Railroad, who mysteriously disappeared, August 8, was returned to his home in a dazed condition, August 20, by a taxicab driver, who also disappeared after ringing the doorbell at the Browning residence. Railroad officials indicated their belief that Dr. Browning, who had been engaged in treating nonunion workers since the shopmen's strike, had been kidnaped and that his release was due to the active police investigation of his disappearance.

Dr. E. J. Berkheiser announces that he will continue the orthopedic practice of the late Dr. Wallace Blanchard with whom he was associated at the Home for Destitute Cripple Children.

Dr. and Mrs. R. D. Luster, of Granite City, left on August 10 for Hot Sulphur Springs, Colo. They expect to be gone two months.

Dr. F. E. Glauner, of Marine, spent the month of July at the Mayo Clinic, Rochester, Minn.

Dr. J. N. Shaff, of Alton, spent his vacation in and around Denver, combining business with pleasure.

Dr. A. F. Kaeser, of Highland and Dr. H. C. H. Schroeder, of Granite City, assisted in forming a county organization of the American Legion.

Dr. and Mrs. I. J. Beard, of Godfrey, left on August 16, to make their future home at Tustin, Cal., about 16 miles from Long Beach.

Dr. and Mrs. W. H. C. Smith, of Godfrey, returned about two weeks ago from an extended vacation with home folks in New England.

Dr. A. L. Mann, city physician of Elgin, is working with greatly improved efficiency in the laboratory recently newly equipped by the city.

News Notes

—Plans have been completed for the new hospital to be erected at Harrisburg, at a cost of $75,000.

—Plans have been drawn for a $150,000 addition to the Highland Park Hospital near the Exmoor Country Club, work on which will start in the fall.

—The first annual conference of the Chinese Medical Society will be held at Northwestern University, Evanston, September 11-14. American visitors are welcome. Several Chicago physicians will address the conference.

—A $250,000 addition to Our Saviour's Hospital at Jacksonville is being completed. An additional $50,000 is now being secured to purchase equipment and furnishings for the hospital.

—The cornerstone for the Eastern Star Home for the Aged, to be erected in Rockford, was laid recently at appropriate exercises. The new building is being erected at a cost of $175,000 and will be completed by September 15.

—U. S. Ambassador Harvey, at the request of President Walter Dill Scott of Northwestern University, will present a bust of Dr. Green Vardiman Black, dean of Northwestern Uni-

versity Dental School, who died in 1915, to the London (England) University. Dr. Black was known as "the father of modern dentistry, and dental pathology and bacteriology."

—It is reported that Governor Small has dismissed W. H. H. Miller, director of the state department of registration and education, who was indicted by the grand jury at Chicago on a charge of selling numerous physicians' licenses and druggists' certificates. A. M. Shelton, Crystal Lake, for twelve years superintendent of schools in McHenry, has been appointed to succeed him. Miller's dismissal followed his refusal to resign after a medical board had recommended his removal some months ago and hundreds of letters from all parts of the state had been sent to Governor Small attacking Miller's administration.

—Announcement has been made that the U. S. Bureau of the Census will make a test in Illinois during September and October of this year to determine how completely births are being reported. In anticipation of the test, the state director of public health has carried out a vigorous campaign in behalf of prompt and complete returns. Every practicing physician in the state whose correct name and address were obtainable has received a letter urging him to report at once all unregistered births that had occurred in his practice an dto be especially prompt with current and future reports. County medical societies have also been solicited with gratifying results, for active cooperation in this connection. A few delinquent physicians have been prosecuted. As a result of these activities, birth registration has increased about 10 per cent. during the last twelve months, and it is felt that this, coupled with renewed cooperative efforts on the part of physicians, will indicate a registration sufficiently complete to make Illinois eligible for the U. S. Registration Area.

—Doctors from Boone, Stephenson, Carroll, DeKalb, McHenry, La Salle, Jo Daviess, Whiteside, Ogle and Lee counties in Illinois and Rock county in Wisconsin, attended the convention of the First District, Illinois State Medical Society, at Rockford, August 23. Rockford physicians were hosts to the visitors.

Dr. Dean Lewis of Chicago was the principal speaker. A trip was made up the Rock river to Illinois Park on the steamer City of Rockford. The doctors and their families spent the afternoon romping in the park. Games were played and various races run.

—Officers of the Illinois Tuberculosis association delivered addresses in various parts of the state the last week of August, in the interest of the modern health crusade in the schools. Mrs. Jayne B. Kerr, field secretary, attended teachers' institute meetings at La Salle, Hennepin and Toulon.

—Miss Ann Tillinghast, state supervising nurse, addressed similar meetings at Louisville, and in Pulaski, Galatin and Saline counties.

—J. W. Becker, managing director, spoke at Anna and Carbondale.

Deaths

Philip Adolphus, Chicago; University of Maryland School of Medicine, Baltimore, 1858; member of the Illinois State Medical Society; emeritus professor of clinical gynecology at Rush Medical College, Chicago; Civil War veteran; for thirty-three years superintendent of the Central Free Dispensary; consulting physician to the Presbyterian Hospital; member of the Chicago Gynecological Society and of the Society of Medical History; died, August 26, aged 94, from bronchial pneumonia.

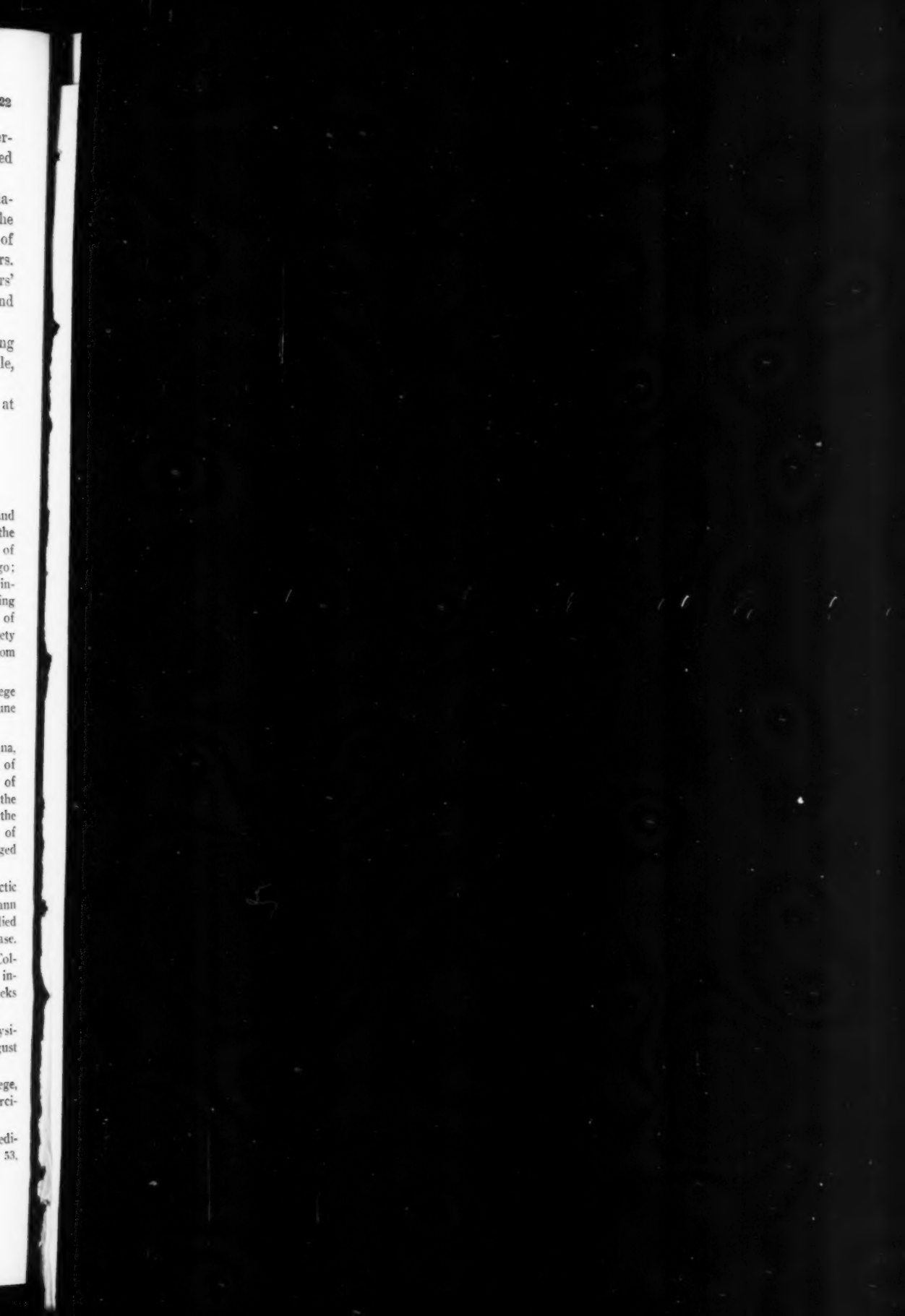
Alonzo J. Edson, Rockford, Ill.; Eclectic College of Medicine and Surgery, Cincinnati, 1857; died June 5, aged 93.

Edward M. Eidheer, Chicago; University of Vienna, Austria, 1886; formerly expert in the department of agriculture, bureau of chemistry, Austria; member of the Royal Academy of Science of Vienna and the Academy Physicochemique Italienne; was awarded the gold medal for technical work and scientific merit of the Italian Academy of Palermo; died July 24, aged 60, from cerebral hemorrhage.

Kate J. Graves, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1884; Hahnemann Medical College and Hospital of Chicago, 1885; died August 12, at Fifield, Wis., aged 70, from heart disease.

Prier J. Hermon, Raymond, Ill.; Rush Medical College, Chicago, 1863; died July 24, aged 88, from injuries received when he fell off the porch two weeks previously.

W. R. McLaren, Galesburg, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; died, August 6, aged 72.

Emil J. Schwandt, Chicago; Rush Medical College, Chicago, 1888; died, August 3, aged 59, from carcinoma.

William Offee Story, La Salle, Ill.; Eclectic Medical Institute, Cincinnati, 1894; died, August 7, aged 53, from carcinoma of the stomach.